

AD 744793

AD



RESEARCH AND DEVELOPMENT TECHNICAL REPORT
ECOM-0280-7

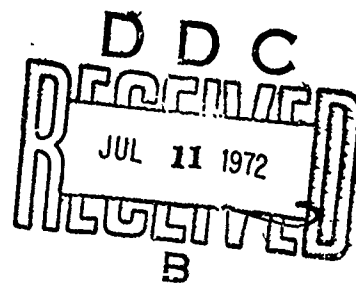
SIMULATION RESEARCH TO DEVELOP OBJECTIVE METEOROLOGICAL PREDICTION CAPABILITY

SEMI-ANNUAL REPORT

By

Tom E. Sanford, Principal Investigator,

May 1972



ECOM

UNITED STATES ARMY ELECTRONICS COMMAND • FORT MONMOUTH, N.J.
Contract DAAB07-68-C-0280

DEPARTMENTS OF METEOROLOGY AND OCEANOGRAPHY

TEXAS A&M UNIVERSITY

College Station, Texas 77843

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. Department of Commerce
Springfield, VA 22151

DISTRIBUTION STATEMENT

Approved for public release: distribution unlimited.

Disclaimers

The citation of trade names and names of manufacturers in this report is not to be construed as official Government indorsement or approval of commercial products or services referenced herein.

Disposition

Destroy this report when it is no longer needed. Do not return to the originator.

[illegible]

Technical Report ECOM-0280-7
May 1972

Reports Control Symbol
OSD-1366

SIMULATION RESEARCH TO DEVELOP OBJECTIVE
METEOROLOGICAL PREDICTION CAPABILITY

Seventh Semi-Annual Report
16 May 1971 to 16 November 1971

Report No. 7

Contract No. DAAB07-68-C-0280
DA Project No. 1T0.6211.A126.05

Project 582

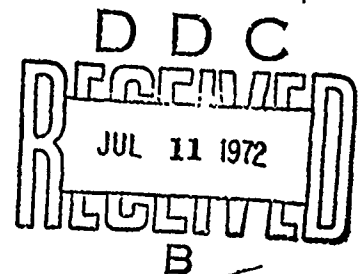
Reference 71-25A

Prepared by
Tom E. Sanford, Principal Investigator
TEXAS A & M RESEARCH FOUNDATION
College Station, Texas

For
U. S. Army Electronics Command, Fort Monmouth, New Jersey

DISTRIBUTION STATEMENT

Approved for public release: Distribution unlimited.



DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

| | | | |
|---|--|--|-------------------------|
| 1. ORIGINATING ACTIVITY (Corporate author) Texas A & M Research Foundation College Station, Texas 77843 | | 2a. REPORT SECURITY CLASSIFICATION | |
| | | 2b. GROUP | |
| 3. REPORT TITLE Simulation Research to Develop Objective Meteorological Prediction Capability | | | |
| 4. DESCRIPTIVE NOTES (Type of report and inclusive dates) Seventh Semi-Annual Report for 16 May 1971 to 16 November 1971 | | | |
| 5. AUTHOR(S) (First name, middle initial, last name) Tom E. Sanford | | | |
| 6. REPORT DATE November 1971 | | 7a. TOTAL NO. OF PAGES 153 | 7b. NO. OF REFS None |
| 8a. CONTRACT OR GRANT NO. DAAB07-68-C-0280 | | 9a. ORIGINATOR'S REPORT NUMBER(S) Reference 71-25A | |
| b. PROJECT NO. | | 9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report) ECOM-0280-7 | |
| c. DA No. 1T0.6211.A126 | | | |
| Task-05 | | | |
| d. Subtask-52 | | | |
| 10. DISTRIBUTION STATEMENT This document is subject to special export controls and each transmittal to foreign governments or foreign nationals may be made only with prior approval of CG, U. S. Army Electronics Command, Fort Monmouth, New Jersey, ATTN: AMSEL-BL-FM-T | | | |
| 11. SUPPLEMENTARY NOTES | | 12. SPONSORING MILITARY ACTIVITY U. S. Army Electronics Command Fort Monmouth, New Jersey 07703 AMSEL-BL-FM-T | |
| 13. ABSTRACT <p>This report is a continuation of the work included in Technical Report ECOM-0280-6 regarding the investigation of the suitability of an alternate expression for the exchange coefficients for momentum which are an integral part of the set of meteorological equations presently being used to simulate the atmospheric boundary layer. Solutions for Cases I-B, II, III, and IV-A of the Dallas Tower Network data incorporating the alternate exchange coefficient are included in this report.</p> <p>These solutions indicate that the alternate expression for the exchange coefficient for momentum produces more realistic results which are consistent with the expected diurnal variation of the exchange coefficients and which yield predicted winds at 8-m height which are closer to the observed values for long time intervals than those winds predicted by the original exchange coefficient relationship.</p> | | | |

| 14. KEY WORDS | LINK A | | LINK B | | LINK C | |
|---|--------|----|--------|----|--------|----|
| | ROLE | WT | ROLE | WT | ROLE | WT |
| 1. Meteorology | | | | | | |
| 2. Meteorological Simulator | | | | | | |
| 3. Dept. of the Army Contract No. DAAB07-68-C-0280 | | | | | | |

ACKNOWLEDGEMENT

The research reported herein has been performed under Contract DAAR07-68-C-0280, sponsored by the U. S. Army Electronics Command at Fort Monmouth, New Jersey. Personnel and equipment support for the general purpose analog computer facility utilized in this research are provided jointly by the U. S. Army Electronics Command and Texas A&M University.

TABLE OF CONTENTS

| | Page |
|---|------|
| Abstract | ii |
| Acknowledgement | iii |
| I. SOLUTIONS OF THE MODIFIED SYSTEM OF EQUATIONS FOR THE DALLAS TOWER NETWORK DATA | 1 |
| II. RELATIONSHIPS BETWEEN THE ALTERNATE EXCHANGE COEFFICIENTS, THE TEMPERATURE GRADIENT IN THE SURFACE LAYER, AND THE WIND SPEED AT THE HEIGHT OF EIGHT METERS | 123 |
| III. COMPARISON OF SOLUTIONS OBTAINED WITH THE ALTERNATE EXCHANGE COEFFICIENT AND SOLUTIONS OBTAINED PREVIOUSLY BY USE OF THE LOG-SQUARE- ROOT WIND PROFILE | 134 |
| IV. DETERMINATION OF THE DEGREE OF COUPLING OF THE WIND AT 1000-METERS HEIGHT TO THE GEOSTROPHIC WIND | 140 |
| Distribution List | 145 |
| DD Form 1473 | 152 |

LIST OF TABLES

| | Page |
|--|------|
| Table III.1 Differences in Predictions of the Wind at Eight Meters Height for Case I-B Obtained by Use of the Alternate Exchange Coefficients and the Coefficients Derived from the Log-Square-Root Wind Profile..... | 134 |
| Table III.2 Differences in Predictions of the Wind at Eight Meters Height for Case II Obtained by Use of the Alternate Exchange Coefficients and the Coefficients Derived from the Log-Square-Root Wind Profile..... | 136 |
| Table III.3 Differences in Predictions of the Wind at Eight Meters Height for Case III Obtained by Use of the Alternate Exchange Coefficients and the Coefficients Derived from the Log-Square-Root Wind Profile..... | 137 |
| Table III.4 Differences in Predictions of the Wind at Eight Meters Height for Case IV-A Obtained by Use of the Alternate Exchange Coefficients and the Coefficients Derived from the Log-Square-Root Wind Profile..... | 138 |
| Table IV.1 Differences in Predictions of the Wind at 1000-Meters Height Obtained for Various Degrees of Geostrophic Coupling for Case I-B..... | 141 |
| Table IV.2 Differences in Predictions of the Wind at 1000-Meters Height Obtained for Various Degrees of Geostrophic Coupling for Case II..... | 142 |
| Table IV.3 Differences in Predictions of the Wind at 1000-Meters Height Obtained for Various Degrees of Geostrophic Coupling for Case III..... | 142 |
| Table IV.4 Differences in Predictions of the Wind at 1000-Meters Height Obtained for Various Degrees of Geostrophic Coupling for Case IV-A.... | 143 |

LIST OF FIGURES

| | Page |
|---|------|
| Figure II.1 Twelve hour simulation of the difference in temperature between the surface and 8-m height, $T_0 - T_8$, for Case I-B..... | 124 |
| Figure II.2 Twelve hour simulation of the wind speed, S_8 , at 8-m height for Case I-B..... | 125 |
| Figure II.3 Twelve hour simulation of the exchange coefficient for momentum at 8-m height, $K_{m,8}$, for Case I-B..... | 126 |
| Figure II.4 Twelve hour simulation of the integral exchange coefficient, D_8 , for Case I-B..... | 127 |
| Figure II.5 Forty-eight hour simulation of the difference in temperature between the surface and 8-m height, $T_0 - T_8$, for Case I-B with the surface contour gradient held constant and advection of wind, temperature, and vapor pressure equal to zero..... | 129 |
| Figure II.6 Forty-eight hour simulation of the wind speed at 8-m height, S_8 , for Case I-B with the surface contour gradient constant and advection of wind, temperature, and moisture equal to zero..... | 130 |
| Figure II.7 Forty-eight hour simulation of the exchange coefficient for momentum at 8-m height, $K_{m,8}$, for Case I-B with the surface contour gradient held constant and advection of wind, temperature, and vapor pressure equal to zero..... | 131 |
| Figure II.8 Forty-eight hour simulation of the integral exchange coefficient, D_8 , for Case I-B with the surface contour gradient held constant and advection of wind, temperature, and vapor pressure equal to zero..... | 132 |

1. SOLUTIONS OF THE MODIFIED SYSTEM OF EQUATIONS FOR THE DALLAS TOWER NETWORK DATA

A. Introduction

An alternate expression for the integral exchange coefficient for the layer of the atmosphere extending from the surface of the ground to 8-m height was set forth in Technical Report ECOM-0280-6 and is expressed as

$$D_8 = \left[\frac{k(1-\beta)}{\left(\frac{800}{z_0}\right)^{1-\beta} - 1} \right]^2 S_8 ; \quad 0.11 \leq \beta \leq 1.14$$

and the exchange coefficient for momentum at 8-m height is given by

$$K_{m,8} = \frac{S_8 k^2 (1-\beta) z_0^{(1-\beta)} 800^\beta}{\left[\left(\frac{800}{z_0}\right)^{(1-\beta)} - 1 \right]}$$

where

$$\beta = 1 - 1.43R_i - 6R_i^2 - 10R_i^3 ,$$

$$R_i \bigg|_0^{8m} = \frac{800g(\theta_8 - \theta_0)}{\bar{\theta}_8 (S_8 + a)^2} ,$$

k is Von Karmen's constant, S_8 is the wind speed at eight meters height, z_0 is the surface roughness parameter, R_i is the layer Richardson number for the surface layer, g is the acceleration due to gravity, θ_8 is the potential temperature of the air at eight meters height, θ_0 is the potential temperature of the air at the air-soil boundary, $\bar{\theta}_8$ is the mean potential temperature for the surface

layer, and a is a threshold wind speed. As $\beta \rightarrow 1$ these equations reduce to the values attained by the usual logarithmic wind profile law.

Solutions obtained for Cases I-B, II, III, and IV-A of the Dallas Tower Network data are shown on pages 6 through 122 of this report. The most general solution has been obtained for each case for time periods of 1, 2, 6, and 12 hr. The data obtained from the general purpose analog computer (GPAC) are punched directly into punch cards and the voltages representing the various meteorological parameters are subsequently converted by means of an IBM 360/65 digital computer to parameter values. The data as printed by the digital computer consists of a tape log which contains a tape number assigned to each set of solutions and the conditions under which these solutions were obtained, initial values for the parameters included in the solutions, data corresponding to each of the verifying times, solutions obtained on the GPAC, and root-mean-square differences between the observed and calculated values of winds, temperatures, and vapor pressures.

The data formats are the same for all cases; therefore, remarks made for Case I-B will apply to all. The tape log for Case I-B appears on page 6. The first column in the log contains the reference number assigned to each individual tape. The second column contains the applicable prediction interval expressed in hours. The third column, headed SM, refers to the soil model being employed. Two soil models are available in the present equation set, a stratified soil

model (Soil Model A) and a unified Soil Model (Soil Model B). For all of the solutions shown in this report Soil Model A only was used and is indicated in the third column by the letter A. The fourth column is headed $\frac{KM8}{p8}$ and contains the letter V. This column specifies how the exchange coefficients for momentum are employed. The computer operator has the choice of permitting the exchange coefficients to vary with the wind speed at a height of 8 m or of holding their values fixed during the simulation cycle. The V in this column indicates that the exchange coefficients were allowed to vary.

The column headed SCG contains the letter A indicating that the surface contour gradient changed linearly during the solution cycle. The column headed ADV contains an N which indicates that advection of wind, temperature, and vapor pressure varies with the wind, and the column headed GEO indicates whether or not the geostrophic coupling term is omitted (indicated by 0) or is included (indicated by 1). The last column containing remarks indicates the settings of the geostrophic coupling potentiometers. The settings for these potentiometers are equal to $500A$ where A is the coefficient of coupling; consequently, potentiometer settings of 0.2000, 0.4000, 0.6000, 0.8000, and 1.0000 correspond, respectively, to values of A of 0.0004, 0.0008, 0.0012, 0.0016, and 0.0020 $\text{gm cm}^{-2} \text{sec}^{-1}$.

The pages of initial conditions follow the tape log. The date and local time for which the observations were taken are given in the heading of each page. Since no subscripts are available on the computer printout, subscripts have been indicated by parentheses.

Four pages of comparison data follow the initial conditions. One page is shown for each of the verifying times (indicated in parentheses in the heading) of 1, 2, 6, and 12 hrs after the initial time. Verifying data for winds, temperatures, and vapor pressures are shown at all computational levels above the ground except that no verification value is available for the winds at the height of 2 m. Comparison data for soil temperatures are included as is the calculated short wave solar radiation. The symbol XXXX indicates the absence of verification data for the particular parameter in question.

The solutions obtained on the GPAC begin on Page 13. For a brief explanation of these data sheets, refer to that page. The data for each set of solutions appears on three successive pages. The first page contains the u- and v-components of the wind, the second page contains the air temperatures and vapor pressures, and the third page contains the soil temperatures, surface energy terms, and other miscellaneous variables. The first line of the first page contains the values of the exchange coefficients for momentum for the solutions obtained according to the corresponding tape numbers which occur in the second line of the page, and the third line indicates the length of the prediction interval in hours. For example, the data for tape number 755 appears in the first column. The exchange coefficient for momentum for this set of solutions at the end of the 12 hr simulation interval is $2,979 \text{ cm}^2/\text{sec}$.

The value for the exchange coefficient for momentum, the tape number, and the forecast interval are centered above two columns headed GPAC and DIFF, respectively. The columns headed GPAC contain the solution values as obtained on the general purpose analog computer and the columns headed DIFF contain the algebraic differences between the values obtained on the general purpose analog computer and the observed or hand processed values. One complete set of GPAC data and the corresponding differences are shown in each of these pairs of columns commencing on the first page and ending on the third page. Finally, the column located on the left of the page and headed LEVEL(M) indicates the height in meters at which the parameters are applicable. GEO appearing in this column refers to the geostrophic value of the wind component.

A root-mean-square error evaluation for each tape run for a particular case follows the GPAC solutions for that case. The evaluation for Case I-B appears on pages 31 and 32. The numbers in the body of the page are root-mean-squares of the differences obtained for all prediction levels in a particular profile for the parameter appearing at the head of the column in which the number appears. In the left-most column RMS MAGNITUDE refers to the magnitude of the observed data for the atmospheric variable at the indicated number of hours after the initial time. PERSIST DIFF is the root-mean-square difference between the observed data at the time of verification and at the initial time. GPAC DIFF is the difference between the GPAC values and the observed values at verification time.

CASE I-B

TAPE LOG

Reproduced from
best available copy.

| TAPE NO. | FCST INT | SM | KMB DB | SCG | ADV | GEO | REMARKS |
|-------------|-------------|----|-----------|-----|-----|-----|----------|
| 755. | 12.00 | A | V | A | N | O | |
| 756. | 12.00 | A | V | A | N | I | GEO=0.20 |
| 757. | 12.00 | A | V | A | N | I | GEO=0.40 |
| 758. | 12.00 | A | V | A | N | I | GEO=0.60 |
| 759. | 12.00 | A | V | A | N | I | GEO=0.80 |
| 760. | 12.00 | A | V | A | N | I | GEO=1.00 |
| 761. | 6.00 | A | V | A | N | C | |
| 762. | 6.00 | A | V | A | N | I | GEO=0.20 |
| 763. | 6.00 | A | V | A | N | I | GEO=0.40 |
| 764. | 6.00 | A | V | A | N | I | GEO=0.60 |
| 765. | 6.00 | A | V | A | N | I | GEO=0.80 |
| 766. | 6.00 | A | V | A | N | I | GEO=1.00 |
| 767. | 2.00 | A | V | A | N | C | |
| 768. | 2.00 | A | V | A | N | I | GEO=0.20 |
| 769. | 2.00 | A | V | A | N | I | GEO=0.40 |
| 770. | 2.00 | A | V | A | N | I | GEO=0.60 |
| 771. | 2.00 | A | V | A | N | I | GEO=0.80 |
| 772. | 2.00 | A | V | A | N | I | GEO=1.00 |
| 773. | 1.00 | A | V | A | N | C | |
| 774. | 1.00 | A | V | A | N | I | GEO=0.20 |
| 775. | 1.00 | A | V | A | N | I | GEO=0.40 |
| 776. | 1.00 | A | V | A | N | I | GEO=0.60 |
| 777. | 1.00 | A | V | A | N | I | GEO=0.80 |
| 778. | 1.00 | A | V | A | N | I | GEO=1.00 |

CASE I-B INITIAL CONDITIONS - 0600L 15 AUGUST 1967
(PAGE 1 OF 2 PAGES)

SOIL PARAMETERS

| | | | |
|--------------|-----------------|------------------------------|--|
| LEVEL (M) | TEMP (DEG C) | | |
| 0.000 | 26.32 | LAMBDA | = 0.59 CAL/CM ³ DEG |
| -0.125 | 28.94 | MU/LAMBDA | = 0.0037 CM ² /SEC |
| -0.250 | 29.31 | (MU X LAMBDA) ^{1/2} | = 0.036 CAL ² /CM ⁴ DEG ² SEC |
| -0.500 | 27.99 | Z(0) | = 2.0 CM |
| -1.000 | 25.56 | S(0) | = 0.0004 CAL/CM ² SEC MB |
| -2.000 | 20.52 | G | = 3500 CM ² SEC DEG/CAL |

RADIATION PARAMETERS

| | | | |
|---------------------|------------------|-------------|---------------------------|
| LOCAL TIME = | 0600 | TURBIDITY = | 0.20 |
| DELTA | = 14.06 DEG | PSI = | 0.976 |
| R X 10 ⁵ | = 1.16 DEG C/SEC | F(C) = | 1.00 |
| CLOUD CLASS = | 1 | ALBEDO = | 0.25 |
| E'(8) | = 19.61 MB | M = | 0.620 |
| EPSILON | = 0.950 | N = | 0.0415 MB ^{-1/2} |
| PHI | = 32.5 DEG | H = | -90.0 DEG |

HORIZONTAL GRADIENTS

| LEVEL (M) | DE/DX (MB/100-KM) | DE/DY | DT/DX (DEG C/100-KM) | DT/DY |
|--------------|----------------------|-------|-------------------------|-------|
| 200 | 0.42 | -0.68 | -0.25 | -1.25 |
| 600 | 0.22 | -0.61 | -0.53 | -0.89 |
| 1000 | 0.04 | -0.55 | -0.80 | -0.52 |

CASE I-B INITIAL CONDITIONS - 0600L 15 AUGUST 1962
(PAGE 2 OF 2 PAGES)

| LEVEL (M) | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|--------------|--------------------------------|------|------------------------|------------------------|
| 1000 | -1.99 | 1.90 | 21.15 | 12.50 |
| 900 | -2.00 | 2.58 | 22.10 | 13.25 |
| 800 | -2.00 | 3.25 | 22.68 | 14.00 |
| 700 | -2.00 | 3.92 | 23.25 | 14.75 |
| 600 | -2.00 | 4.60 | 23.83 | 15.50 |
| 500 | -2.00 | 5.30 | 24.40 | 16.25 |
| 400 | -2.00 | 6.10 | 25.05 | 17.00 |
| 300 | -1.92 | 6.94 | 26.04 | 17.75 |
| 200 | -1.02 | 7.10 | 26.71 | 18.50 |
| 100 | 1.20 | 6.29 | 27.22 | 19.09 |
| 32 | 1.60 | 4.10 | 25.65 | 19.47 |
| 8 | 0.70 | 1.85 | 24.24 | 19.61 |

ADVECTION TERMS
-1 5
(SEC X 10)

| LEVEL (M) | ALPHA(1) | BETA(1) | ALPHA(2) | BETA(2) |
|--------------|----------|---------|----------|---------|
| 200 | -0.41 | -0.75 | 0.00 | -0.48 |
| 600 | -0.43 | -0.87 | 0.00 | -0.77 |
| 1000 | -0.45 | -0.99 | 0.00 | -1.05 |

SURFACE CONTOUR GRADIENTS

| PREDICTION INTERVAL (HR) | AZIMUTH (DEG FROM NORTH) | MAGNITUDE (F/100-KM) |
|--------------------------------|-----------------------------|-------------------------|
| 0 | 51.00 | 22.83 |
| 1 | 45.00 | 15.52 |
| 2 | 52.60 | 19.48 |
| 6 | 76.90 | 9.44 |
| 12 | 36.40 | 14.30 |

CASE I-B COMPARISON DATA FROM DALLAS (1 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|------|------------------------|------------------------|
| GE0 | -4.18 | 4.18 | | |
| 1000 | -2.01 | 1.90 | 21.61 | 12.42 |
| 900 | -2.03 | 2.50 | 22.16 | 13.14 |
| 800 | -2.06 | 3.10 | 22.70 | 13.87 |
| 700 | -2.10 | 3.71 | 23.25 | 14.59 |
| 600 | -2.10 | 4.31 | 23.79 | 15.31 |
| 500 | -2.15 | 4.91 | 24.34 | 16.03 |
| 400 | -2.20 | 5.70 | 24.81 | 16.75 |
| 300 | -2.30 | 6.70 | 25.35 | 17.48 |
| 200 | -0.95 | 6.21 | 26.07 | 18.20 |
| 100 | 0.69 | 5.00 | 26.84 | 18.78 |
| 32 | 1.25 | 3.30 | 26.01 | 19.15 |
| 8 | 0.40 | 1.60 | 24.83 | 19.29 |
| 2 | XXXX | XXXX | 24.59 | 19.32 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPED (M/SEC)

| | |
|--------|-------|
| 0.000 | 26.09 |
| -0.125 | 28.69 |
| -0.250 | 29.21 |
| -0.500 | 27.99 |
| -1.000 | 25.57 |
| -2.000 | 20.52 |

| | |
|---|------|
| 8 | 1.65 |
| 2 | 0.81 |

SUPFACE SHEAR STRESS
(DYNFS/CM SQ.)X10
TAU= XXXX

SURFACE ENERGY TERMS (LY/SEC)X1000

| | | | |
|---------|------|---------|------|
| S(D)= | 6.10 | Q(F,Q)= | XXXX |
| R(N)= | XXXX | Q(S,Q)= | XXXX |
| Q(C,Q)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

E= XXXX

CASE I-B COMPARISON DATA FROM DALLAS (2 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|------|------------------------|------------------------|
| GEO | -4.52 | 5.92 | | |
| 1000 | -2.41 | 2.30 | 21.42 | 12.34 |
| 900 | -2.58 | 2.90 | 21.86 | 13.04 |
| 800 | -2.71 | 3.55 | 22.30 | 13.74 |
| 700 | -2.87 | 4.16 | 22.73 | 14.43 |
| 600 | -3.01 | 4.80 | 23.17 | 15.12 |
| 500 | -3.17 | 5.42 | 23.61 | 15.82 |
| 400 | -3.22 | 6.07 | 24.17 | 16.51 |
| 300 | -2.60 | 6.34 | 25.09 | 17.21 |
| 200 | -1.31 | 5.51 | 25.96 | 17.90 |
| 100 | 0.38 | 3.70 | 26.32 | 18.46 |
| 32 | 0.50 | 1.64 | 26.50 | 18.83 |
| 8 | 0.16 | 0.60 | 26.67 | 18.96 |
| 2 | XXXX | XXXX | 26.70 | 18.99 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| 0.000 | 26.35 |
| -0.125 | 28.46 |
| -0.250 | 29.09 |
| -0.500 | 28.01 |
| -1.000 | 25.60 |
| -2.000 | 20.52 |

| | |
|---|------|
| 8 | 0.62 |
| 2 | 0.25 |

SURFACE SHEAR STRESS
(DYNES/CM SQ.)X10
TAU= XXXX

SURFACE ENERGY TERMS (LY/SEC)X1000

| | | | |
|---------|-------|---------|------|
| S(D)= | 12.00 | Q(F,0)= | XXXX |
| R(N)= | XXXX | Q(S,0)= | XXXX |
| Q(C,0)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

E= XXXX

CASE I-B COMPARISON DATA FROM DALLAS (6 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|------|------------------------|------------------------|
| GEO | -0.81 | 3.48 | | |
| 1000 | -1.90 | 0.95 | 22.86 | 12.03 |
| 900 | -1.90 | 0.90 | 23.51 | 12.61 |
| 800 | -1.90 | 0.88 | 24.18 | 13.22 |
| 700 | -1.90 | 0.84 | 24.84 | 13.78 |
| 600 | -1.89 | 0.80 | 25.50 | 14.36 |
| 500 | -1.88 | 0.78 | 26.16 | 14.95 |
| 400 | -1.87 | 0.70 | 27.22 | 15.53 |
| 300 | -1.86 | 0.61 | 27.89 | 16.12 |
| 200 | -1.77 | 0.60 | 29.09 | 16.70 |
| 100 | -1.42 | 0.70 | 30.11 | 17.21 |
| 32 | -1.01 | 0.67 | 31.23 | 17.54 |
| 8 | -0.65 | 0.25 | 31.76 | 17.67 |
| 2 | XXXX | XXXX | 31.90 | 17.69 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| 0.000 | 34.44 |
| -0.125 | 28.80 |
| -0.250 | 28.68 |
| -0.500 | 27.94 |
| -1.000 | 25.58 |
| -2.000 | 20.52 |

| | |
|---|------|
| 8 | 0.69 |
| 2 | 0.21 |

SURFACE SHEAR STRESS
(DYNES/CM SQ.)X10
TAU= XXXX

SURFACE ENERGY TERMS (LY/SEC)X1000

| | | | |
|---------|-------|---------|------|
| S(D)= | 24.70 | Q(E,C)= | XXXX |
| R(N)= | XXXX | Q(S,C)= | XXXX |
| Q(C,O)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

E= XXXX

CASE I-B COMPARISON DATA FROM DALLAS (12 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|-------|------------------------|------------------------|
| GEO | -4.41 | 3.25 | | |
| 1000 | -2.49 | 1.98 | 24.35 | 11.55 |
| 900 | -2.67 | 1.85 | 25.12 | 11.96 |
| 800 | -2.85 | 1.73 | 25.90 | 12.44 |
| 700 | -3.03 | 1.61 | 26.69 | 12.81 |
| 600 | -3.21 | 1.50 | 27.48 | 13.22 |
| 500 | -3.40 | 1.40 | 28.25 | 13.65 |
| 400 | -3.55 | 1.30 | 29.18 | 14.05 |
| 300 | -3.69 | 0.96 | 30.25 | 14.48 |
| 200 | -3.81 | 0.26 | 31.36 | 14.90 |
| 100 | -3.80 | -0.60 | 32.44 | 15.32 |
| 32 | -3.07 | -0.90 | 33.30 | 15.61 |
| 8 | -2.05 | -0.50 | 33.75 | 15.72 |
| 2 | XXXX | XXXX | 33.85 | 15.74 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| 0.000 | 36.00 |
| -0.125 | 31.53 |
| -0.250 | 29.27 |
| -0.500 | 27.84 |
| -1.000 | 25.59 |
| -2.000 | 20.52 |

| | |
|---|------|
| 8 | 2.11 |
| 2 | 1.27 |

SURFACE SHEAR STRESS
(DYNES/CM SQ.)X10
TAU= XXXX

SURFACE ENERGY TERMS (LY/SEC)X1000

| | | | |
|---------|------|---------|------|
| S(D)= | 0.90 | Q(E,O)= | XXXX |
| R(N)= | XXXX | Q(S,O)= | XXXX |
| Q(C,O)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

E= XXXX

CASE I-B

GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|---------|---------|---------|---------|
| K(CM SQ/SEC) | 2979 | 2869 | 2879 | 2904 |
| TAPE NO. | 755. | 756. | 757. | 758. |
| INTERVAL | 12.00HR | 12.00HR | 12.00HR | 12.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | -4.42 | -0.01 | -4.42 | -0.01 | -4.42 | -0.01 | -4.42 | -0.01 |
| 1000 | 0.25 | 2.74 | -2.06 | 0.43 | -3.06 | -0.57 | -3.52 | -1.03 |
| 900 | -1.06 | 1.61 | -1.46 | 1.21 | -1.76 | 0.91 | -1.93 | 0.74 |
| 800 | -1.75 | 1.10 | -1.84 | 1.01 | -1.97 | 0.88 | -2.07 | 0.78 |
| 700 | -2.21 | 0.82 | -2.19 | 0.84 | -2.26 | 0.77 | -2.33 | 0.70 |
| 600 | -2.54 | 0.67 | -2.46 | 0.75 | -2.51 | 0.70 | -2.54 | 0.67 |
| 500 | -2.77 | 0.63 | -2.67 | 0.73 | -2.70 | 0.69 | -2.73 | 0.67 |
| 400 | -2.95 | 0.60 | -2.84 | 0.71 | -2.85 | 0.70 | -2.87 | 0.68 |
| 300 | -3.07 | 0.62 | -2.95 | 0.73 | -2.95 | 0.73 | -2.97 | 0.72 |
| 200 | -3.13 | 0.69 | -3.01 | 0.80 | -3.00 | 0.81 | -3.01 | 0.80 |
| 100 | -3.04 | 0.76 | -2.93 | 0.87 | -2.93 | 0.87 | -2.93 | 0.87 |
| 32 | -2.73 | 0.34 | -2.64 | 0.43 | -2.63 | 0.44 | -2.63 | 0.44 |
| 8 | -2.19 | -0.14 | -2.13 | -0.07 | -2.12 | -0.07 | -2.12 | -0.07 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|-------|------|-------|------|-------|------|------|
| GEO | 3.24 | -0.01 | 3.24 | -0.01 | 3.24 | -0.01 | 3.25 | 0.00 |
| 1000 | 5.99 | 4.01 | 5.42 | 3.44 | 4.89 | 2.91 | 4.53 | 2.56 |
| 900 | 5.68 | 3.83 | 5.70 | 3.85 | 5.66 | 3.81 | 5.61 | 3.76 |
| 800 | 5.32 | 3.59 | 5.37 | 3.64 | 5.38 | 3.65 | 5.38 | 3.65 |
| 700 | 4.96 | 3.35 | 5.01 | 3.40 | 5.03 | 3.43 | 5.04 | 3.43 |
| 600 | 4.64 | 3.14 | 4.69 | 3.19 | 4.72 | 3.22 | 4.74 | 3.24 |
| 500 | 4.32 | 2.93 | 4.36 | 2.97 | 4.40 | 3.01 | 4.42 | 3.02 |
| 400 | 3.98 | 2.68 | 4.02 | 2.72 | 4.06 | 2.76 | 4.07 | 2.77 |
| 300 | 3.64 | 2.68 | 3.67 | 2.71 | 3.69 | 2.73 | 3.72 | 2.76 |
| 200 | 3.23 | 2.97 | 3.26 | 3.00 | 3.28 | 3.02 | 3.31 | 3.05 |
| 100 | 2.75 | 3.35 | 2.77 | 3.37 | 2.80 | 3.40 | 2.82 | 3.42 |
| 32 | 2.17 | 3.07 | 2.18 | 3.08 | 2.20 | 3.10 | 2.22 | 3.12 |
| 8 | 1.65 | 2.15 | 1.66 | 2.16 | 1.67 | 2.17 | 1.69 | 2.19 |

CASE I-B GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 755. 12.00HR | 756. 12.00HR | 757. 12.00HR | 758. 12.00HR |
|----------------------|-----------------|-----------------|-----------------|-----------------|
|----------------------|-----------------|-----------------|-----------------|-----------------|

AIR TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 27.64 | 3.29 | 27.52 | 3.17 | 27.42 | 3.07 | 27.35 | 3.00 |
| 900 | 28.35 | 3.23 | 28.29 | 3.17 | 28.22 | 3.10 | 28.19 | 3.07 |
| 800 | 28.66 | 2.76 | 28.63 | 2.73 | 28.60 | 2.70 | 28.57 | 2.67 |
| 700 | 28.99 | 2.30 | 28.90 | 2.21 | 28.86 | 2.17 | 28.84 | 2.15 |
| 600 | 29.04 | 1.56 | 29.05 | 1.57 | 29.04 | 1.56 | 29.03 | 1.55 |
| 500 | 29.18 | 0.92 | 29.21 | 0.95 | 29.21 | 0.95 | 29.18 | 0.92 |
| 400 | 29.28 | 0.10 | 29.31 | 0.13 | 29.31 | 0.13 | 29.29 | 0.11 |
| 300 | 29.36 | -0.89 | 29.39 | -0.86 | 29.39 | -0.86 | 29.38 | -0.87 |
| 200 | 29.36 | -2.00 | 29.40 | -1.96 | 29.40 | -1.96 | 29.40 | -1.96 |
| 100 | 29.32 | -3.12 | 29.36 | -3.08 | 29.35 | -3.09 | 29.35 | -3.09 |
| 32 | 28.95 | -4.35 | 29.00 | -4.30 | 29.00 | -4.30 | 29.00 | -4.30 |
| 8 | 28.38 | -5.37 | 28.43 | -5.32 | 28.43 | -5.32 | 28.42 | -5.33 |
| 2 | 26.95 | -6.90 | 26.99 | -6.86 | 27.00 | -6.85 | 26.99 | -6.86 |
| 0 | 25.47 | XXXX | 25.51 | XXXX | 25.52 | XXXX | 25.51 | XXXX |

VAPOR PRESSURE (MP)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 20.31 | 8.76 | 20.33 | 8.78 | 20.32 | 8.77 | 20.31 | 8.76 |
| 900 | 21.42 | 9.46 | 21.45 | 9.49 | 21.45 | 9.49 | 21.45 | 9.49 |
| 800 | 22.15 | 9.71 | 22.19 | 9.75 | 22.19 | 9.75 | 22.21 | 9.77 |
| 700 | 22.80 | 9.99 | 22.84 | 10.03 | 22.85 | 10.04 | 22.85 | 10.04 |
| 600 | 23.34 | 10.12 | 23.39 | 10.17 | 23.40 | 10.18 | 23.41 | 10.19 |
| 500 | 23.92 | 10.27 | 23.96 | 10.31 | 23.97 | 10.32 | 23.97 | 10.32 |
| 400 | 24.45 | 10.40 | 24.51 | 10.46 | 24.51 | 10.46 | 24.53 | 10.48 |
| 300 | 25.05 | 10.57 | 25.11 | 10.63 | 25.11 | 10.63 | 25.13 | 10.65 |
| 200 | 25.68 | 10.78 | 25.74 | 10.84 | 25.78 | 10.88 | 25.77 | 10.87 |
| 100 | 26.45 | 11.13 | 26.53 | 11.21 | 26.56 | 11.24 | 26.54 | 11.22 |
| 32 | 27.31 | 11.70 | 27.41 | 11.80 | 27.44 | 11.83 | 27.42 | 11.81 |
| 8 | 28.05 | 12.33 | 28.15 | 12.43 | 28.17 | 12.45 | 28.16 | 12.43 |
| 2 | 29.07 | 13.33 | 29.18 | 13.44 | 29.20 | 13.46 | 29.18 | 13.44 |
| 0 | 30.12 | XXXX | 30.24 | XXXX | 30.25 | XXXX | 30.23 | XXXX |

CASE I-B GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| TAPE NO. INTERVAL | 755. 12.00HR | 756. 12.00HR | 757. 12.00HR | 758. 12.00HR |
|----------------------|-----------------|-----------------|-----------------|-----------------|
|----------------------|-----------------|-----------------|-----------------|-----------------|

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| C.000 | 30.26 | -5.74 | 30.28 | -5.72 | 30.28 | -5.72 | 30.28 | -5.72 |
| -0.125 | 29.78 | -1.75 | 29.78 | -1.75 | 29.78 | -1.75 | 29.78 | -1.75 |
| -0.250 | 29.01 | -0.26 | 29.01 | -0.26 | 29.01 | -0.26 | 29.01 | -0.26 |
| -0.500 | 28.01 | 0.17 | 27.99 | 0.15 | 28.01 | 0.17 | 28.01 | 0.17 |
| -1.000 | 25.55 | -0.04 | 25.56 | -0.03 | 25.56 | -0.03 | 25.56 | -0.03 |
| -2.000 | 20.51 | -0.01 | 20.50 | -0.02 | 20.51 | -0.01 | 20.51 | -0.01 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 2.75 | 0.64 | 2.69 | 0.58 | 2.69 | 0.58 | 2.71 | 0.60 |
| 2 | 1.39 | 0.12 | 1.36 | 0.09 | 1.37 | 0.10 | 1.37 | 0.10 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| S(D) | 0.71 | -0.19 | 0.72 | -0.18 | 0.72 | -0.18 | 0.71 | -0.19 |
| R(N) | -1.17 | XXXX | -1.16 | XXXX | -1.16 | XXXX | -1.17 | XXXX |
| Q(C,O) | -0.81 | XXXX | -0.79 | XXXX | -0.79 | XXXX | -0.79 | XXXX |
| Q(E,C) | 1.01 | XXXX | 0.98 | XXXX | 0.98 | XXXX | 0.99 | XXXX |
| Q(S,O) | -1.36 | XXXX | -1.36 | XXXX | -1.36 | XXXX | -1.36 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| TAU | 2.28 | XXXX | 2.16 | XXXX | 2.18 | XXXX | 2.20 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/GM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| E | 48.50 | XXXX | 48.40 | XXXX | 48.50 | XXXX | 48.50 | XXXX |

CASE 1-B

GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|---------|---------|--------|--------|
| K(CM SQ/SEC) | 2929 | 2939 | 13419 | 13469 |
| TAPE NO. | 759. | 760. | 761. | 762. |
| INTERVAL | 12.00HR | 12.00HR | 6.00HR | 6.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | -4.42 | -0.01 | -4.42 | -0.01 | -0.79 | 0.02 | -0.80 | 0.01 |
| 1000 | -3.77 | -1.28 | -3.92 | -1.43 | -0.34 | 1.55 | -0.38 | 1.52 |
| 900 | -2.03 | 0.64 | -2.10 | 0.57 | -0.74 | 1.15 | -0.64 | 1.26 |
| 800 | -2.13 | 0.72 | -2.17 | 0.68 | -0.99 | 0.90 | -0.83 | 1.01 |
| 700 | -2.37 | 0.66 | -2.40 | 0.63 | -1.16 | 0.74 | -1.06 | 0.84 |
| 600 | -2.57 | 0.64 | -2.55 | 0.66 | -1.28 | 0.61 | -1.19 | 0.70 |
| 500 | -2.75 | 0.65 | -2.77 | 0.63 | -1.37 | 0.51 | -1.29 | 0.59 |
| 400 | -2.89 | 0.66 | -2.90 | 0.65 | -1.43 | 0.44 | -1.36 | 0.51 |
| 300 | -2.98 | 0.71 | -2.99 | 0.70 | -1.47 | 0.39 | -1.40 | 0.45 |
| 200 | -3.02 | 0.79 | -3.03 | 0.78 | -1.48 | 0.29 | -1.42 | 0.35 |
| 100 | -2.94 | 0.86 | -2.95 | 0.85 | -1.44 | -0.02 | -1.38 | 0.04 |
| 32 | -2.64 | 0.43 | -2.64 | 0.43 | -1.31 | -0.30 | -1.26 | -0.25 |
| 8 | -2.12 | -0.07 | -2.13 | -0.08 | -1.12 | -0.47 | -1.08 | -0.43 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|-------|------|------|------|------|
| GEO | 3.25 | 0.00 | 3.24 | -0.01 | 3.49 | 0.01 | 3.49 | 0.01 |
| 1000 | 4.29 | 2.31 | 4.12 | 2.14 | 7.64 | 6.69 | 6.83 | 5.88 |
| 900 | 5.57 | 3.72 | 5.54 | 3.69 | 7.08 | 6.18 | 7.04 | 6.14 |
| 800 | 5.37 | 3.64 | 5.36 | 3.63 | 6.67 | 5.79 | 6.73 | 5.85 |
| 700 | 5.04 | 3.43 | 5.05 | 3.44 | 6.33 | 5.49 | 6.42 | 5.58 |
| 600 | 4.75 | 3.25 | 4.75 | 3.25 | 6.04 | 5.24 | 6.13 | 5.33 |
| 500 | 4.43 | 3.03 | 4.44 | 3.04 | 5.77 | 4.99 | 5.86 | 5.08 |
| 400 | 4.09 | 2.79 | 4.09 | 2.79 | 5.49 | 4.79 | 5.58 | 4.88 |
| 300 | 3.73 | 2.77 | 3.74 | 2.78 | 5.21 | 4.60 | 5.29 | 4.68 |
| 200 | 3.32 | 3.06 | 3.33 | 3.07 | 4.86 | 4.27 | 4.95 | 4.35 |
| 100 | 2.83 | 3.43 | 2.84 | 3.44 | 4.45 | 3.75 | 4.51 | 3.81 |
| 32 | 2.23 | 3.13 | 2.24 | 3.14 | 3.87 | 3.20 | 3.92 | 3.25 |
| 8 | 1.65 | 2.19 | 1.70 | 2.20 | 3.24 | 2.99 | 3.29 | 3.04 |

CASE I-B

GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 759. 12.00HR | 760. 12.00HR | 761. 6.00HR | 762. 6.00HR |
|----------------------|-----------------|-----------------|----------------|----------------|
|----------------------|-----------------|-----------------|----------------|----------------|

AIR TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 27.32 | 2.97 | 27.29 | 2.94 | 24.75 | 1.89 | 24.79 | 1.93 |
| 900 | 28.10 | 3.04 | 28.15 | 3.03 | 25.59 | 2.08 | 25.63 | 2.12 |
| 800 | 28.55 | 2.65 | 28.54 | 2.64 | 26.01 | 1.83 | 26.05 | 1.87 |
| 700 | 28.84 | 2.15 | 28.82 | 2.13 | 26.36 | 1.52 | 26.39 | 1.55 |
| 600 | 29.01 | 1.53 | 29.01 | 1.53 | 26.63 | 1.13 | 26.66 | 1.16 |
| 500 | 29.18 | 0.92 | 29.17 | 0.91 | 26.91 | 0.75 | 26.93 | 0.77 |
| 400 | 29.29 | 0.11 | 29.28 | 0.10 | 27.17 | -0.05 | 27.20 | -0.02 |
| 300 | 29.37 | -0.88 | 29.37 | -0.88 | 27.48 | -0.41 | 27.49 | -0.40 |
| 200 | 29.39 | -1.97 | 29.37 | -1.99 | 27.82 | -1.27 | 27.84 | -1.25 |
| 100 | 29.35 | -3.09 | 29.33 | -3.11 | 28.37 | -1.74 | 28.41 | -1.70 |
| 32 | 29.00 | -4.30 | 28.98 | -4.32 | 29.15 | -2.08 | 29.17 | -2.06 |
| 8 | 28.43 | -5.32 | 28.40 | -5.35 | 30.19 | -1.57 | 30.21 | -1.55 |
| 2 | 27.00 | -6.85 | 26.97 | -6.88 | 32.83 | 0.93 | 32.84 | 0.94 |
| 0 | 25.53 | XXXX | 25.50 | XXXX | 35.36 | XXXX | 35.36 | XXXX |

VAPOR PRESSURE (MP)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 20.31 | 8.76 | 20.30 | 8.75 | 16.42 | 4.39 | 16.46 | 4.43 |
| 900 | 21.45 | 9.49 | 21.45 | 9.49 | 17.48 | 4.87 | 17.52 | 4.91 |
| 800 | 22.19 | 9.75 | 22.19 | 9.75 | 18.17 | 4.95 | 18.20 | 4.98 |
| 700 | 22.84 | 10.03 | 22.84 | 10.03 | 18.78 | 5.00 | 18.82 | 5.04 |
| 600 | 23.39 | 10.17 | 23.40 | 10.18 | 19.31 | 4.95 | 19.34 | 4.97 |
| 500 | 23.96 | 10.31 | 23.97 | 10.32 | 19.86 | 4.91 | 19.90 | 4.95 |
| 400 | 24.49 | 10.44 | 24.52 | 10.47 | 20.40 | 4.87 | 20.43 | 4.90 |
| 300 | 25.08 | 10.60 | 25.12 | 10.64 | 21.03 | 4.91 | 21.06 | 4.94 |
| 200 | 25.85 | 10.95 | 25.75 | 10.85 | 21.69 | 4.99 | 21.72 | 5.02 |
| 100 | 26.61 | 11.29 | 26.53 | 11.21 | 22.66 | 5.45 | 22.68 | 5.47 |
| 32 | 27.47 | 11.86 | 27.40 | 11.79 | 23.87 | 6.33 | 23.90 | 6.36 |
| 8 | 28.21 | 12.49 | 28.13 | 12.41 | 25.23 | 7.56 | 25.25 | 7.58 |
| 2 | 29.22 | 13.48 | 29.15 | 13.41 | 28.74 | 11.05 | 28.75 | 11.06 |
| 0 | 30.26 | XXXX | 30.19 | XXXX | 32.10 | XXXX | 32.09 | XXXX |

CASE I-B GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|---------|---------|--------|--------|
| TAPE NO. | 759. | 760. | 761. | 762. |
| INTERVAL | 12.00HR | 12.00HR | 6.00HR | 6.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 30.28 | -5.72 | 30.28 | -5.72 | 30.86 | -3.58 | 30.87 | -3.57 |
| -0.125 | 29.78 | -1.75 | 29.78 | -1.75 | 28.80 | -0.00 | 28.81 | 0.01 |
| -0.250 | 29.01 | -0.26 | 29.01 | -0.26 | 29.00 | 0.32 | 29.00 | 0.32 |
| -0.500 | 28.01 | 0.17 | 28.01 | 0.17 | 28.01 | 0.07 | 27.99 | 0.05 |
| -1.000 | 25.56 | -0.03 | 25.56 | -0.03 | 25.57 | -0.01 | 25.57 | -0.01 |
| -2.000 | 20.51 | -0.01 | 20.51 | -0.01 | 20.50 | -0.02 | 20.51 | -0.01 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 2.72 | 0.61 | 2.72 | 0.61 | 3.43 | 2.74 | 3.46 | 2.77 |
| 2 | 1.38 | 0.11 | 1.38 | 0.11 | 1.68 | 1.47 | 1.69 | 1.48 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|------|-------|------|
| S(D) | 0.71 | -0.19 | 0.72 | -0.18 | 25.02 | 0.32 | 25.04 | 0.33 |
| R(N) | -1.17 | XXXX | -1.17 | XXXX | 15.81 | XXXX | 15.82 | XXXX |
| Q(C,0) | -0.79 | XXXX | -0.80 | XXXX | 4.39 | XXXX | 4.40 | XXXX |
| Q(E,0) | 0.99 | XXXX | 0.98 | XXXX | 10.12 | XXXX | 10.13 | XXXX |
| Q(S,0) | -1.36 | XXXX | -1.37 | XXXX | 1.29 | XXXX | 1.29 | XXXX |

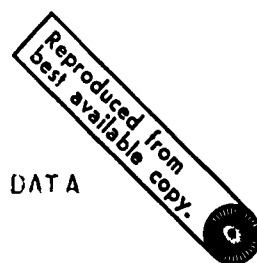
SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| TAU | 2.24 | XXXX | 2.22 | XXXX | 6.62 | XXXX | 5.74 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | PAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| E | 48.40 | XXXX | 46.50 | XXXX | 23.40 | XXXX | 23.40 | XXXX |

CASE I-B GPAC OUTPUT DATA



VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 13479 | 13484 | 13500 | 13494 |
| TAPE NO. | 763. | 764. | 765. | 766. |
| INTERVAL | 6.00HR | 6.00HR | 6.00HR | 6.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEU | -0.79 | 0.02 | -0.80 | 0.01 | -0.79 | 0.02 | -0.80 | 0.01 |
| 1000 | -0.56 | 1.34 | -0.69 | 1.20 | -0.75 | 1.14 | -0.79 | 1.10 |
| 900 | -0.67 | 1.23 | -0.70 | 1.19 | -0.73 | 1.17 | -0.74 | 1.15 |
| 800 | -0.88 | 1.01 | -0.89 | 1.01 | -0.90 | 0.99 | -0.91 | 0.98 |
| 700 | -1.05 | 0.85 | -1.05 | 0.85 | -1.06 | 0.84 | -1.06 | 0.84 |
| 600 | -1.17 | 0.72 | -1.17 | 0.72 | -1.17 | 0.72 | -1.18 | 0.71 |
| 500 | -1.27 | 0.61 | -1.26 | 0.62 | -1.27 | 0.61 | -1.27 | 0.61 |
| 400 | -1.34 | 0.53 | -1.33 | 0.54 | -1.33 | 0.54 | -1.33 | 0.54 |
| 300 | -1.38 | 0.48 | -1.38 | 0.48 | -1.38 | 0.48 | -1.38 | 0.48 |
| 200 | -1.40 | 0.37 | -1.39 | 0.38 | -1.39 | 0.38 | -1.39 | 0.38 |
| 100 | -1.37 | 0.05 | -1.36 | 0.06 | -1.36 | 0.06 | -1.36 | 0.06 |
| 32 | -1.25 | -0.24 | -1.24 | -0.23 | -1.24 | -0.23 | -1.24 | -0.23 |
| 8 | -1.07 | -0.42 | -1.06 | -0.41 | -1.05 | -0.40 | -1.06 | -0.41 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| GEU | 3.49 | 0.01 | 3.49 | 0.01 | 3.49 | 0.01 | 3.49 | 0.01 |
| 1000 | 6.08 | 5.13 | 5.57 | 4.62 | 5.21 | 4.26 | 4.96 | 4.01 |
| 900 | 6.89 | 5.99 | 6.76 | 5.86 | 6.66 | 5.76 | 6.59 | 5.69 |
| 800 | 6.69 | 5.81 | 6.63 | 5.75 | 6.59 | 5.71 | 6.56 | 5.68 |
| 700 | 6.41 | 5.57 | 6.39 | 5.55 | 6.37 | 5.53 | 6.30 | 5.46 |
| 600 | 6.14 | 5.34 | 6.14 | 5.34 | 6.13 | 5.32 | 6.11 | 5.31 |
| 500 | 5.88 | 5.10 | 5.88 | 5.10 | 5.87 | 5.09 | 5.86 | 5.08 |
| 400 | 5.60 | 4.90 | 5.60 | 4.90 | 5.60 | 4.90 | 5.59 | 4.89 |
| 300 | 5.31 | 4.70 | 5.32 | 4.71 | 5.32 | 4.71 | 5.31 | 4.70 |
| 200 | 4.97 | 4.37 | 4.98 | 4.38 | 4.98 | 4.38 | 4.98 | 4.38 |
| 100 | 4.54 | 3.84 | 4.55 | 3.85 | 4.55 | 3.85 | 4.55 | 3.85 |
| 32 | 3.95 | 3.28 | 3.95 | 3.28 | 3.95 | 3.28 | 3.96 | 3.29 |
| 8 | 3.30 | 3.05 | 3.31 | 3.06 | 3.31 | 3.06 | 3.31 | 3.06 |

CASE I-B GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 763. 6.00HR | 764. 6.00HR | 765. 6.00HR | 766. 6.00HR |
|----------------------|----------------|----------------|----------------|----------------|
|----------------------|----------------|----------------|----------------|----------------|

AIR TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 24.78 | 1.92 | 24.78 | 1.92 | 24.76 | 1.90 | 24.75 | 1.89 |
| 900 | 25.63 | 2.12 | 25.62 | 2.11 | 25.62 | 2.11 | 25.61 | 2.10 |
| 800 | 26.05 | 1.87 | 26.05 | 1.87 | 26.05 | 1.87 | 26.04 | 1.86 |
| 700 | 26.40 | 1.56 | 26.39 | 1.55 | 26.38 | 1.54 | 26.38 | 1.54 |
| 600 | 26.66 | 1.16 | 26.68 | 1.18 | 26.67 | 1.17 | 26.66 | 1.16 |
| 500 | 26.93 | 0.77 | 26.94 | 0.78 | 26.94 | 0.78 | 26.94 | 0.78 |
| 400 | 27.21 | -0.01 | 27.20 | -0.02 | 27.21 | -0.01 | 27.21 | -0.01 |
| 300 | 27.51 | -0.38 | 27.50 | -0.39 | 27.50 | -0.39 | 27.51 | -0.38 |
| 200 | 27.85 | -1.24 | 27.86 | -1.23 | 27.87 | -1.22 | 27.86 | -1.23 |
| 100 | 28.41 | -1.70 | 28.41 | -1.70 | 28.41 | -1.70 | 28.41 | -1.70 |
| 32 | 29.18 | -2.05 | 29.17 | -2.06 | 29.18 | -2.05 | 29.18 | -2.05 |
| 8 | 30.22 | -1.54 | 30.22 | -1.54 | 30.22 | -1.54 | 30.22 | -1.54 |
| 2 | 32.85 | 0.95 | 32.85 | 0.95 | 32.84 | 0.94 | 32.85 | 0.95 |
| 0 | 35.36 | XXXX | 35.36 | XXXX | 35.35 | XXXX | 35.36 | XXXX |

VAPOR PRESSURE (MM)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 16.46 | 4.43 | 16.46 | 4.43 | 16.46 | 4.43 | 16.45 | 4.42 |
| 900 | 17.52 | 4.91 | 17.52 | 4.91 | 17.52 | 4.91 | 17.52 | 4.91 |
| 800 | 18.21 | 4.99 | 18.20 | 4.98 | 18.21 | 4.99 | 18.22 | 5.00 |
| 700 | 18.82 | 5.04 | 18.83 | 5.05 | 18.82 | 5.04 | 18.82 | 5.04 |
| 600 | 19.35 | 4.99 | 19.35 | 4.99 | 19.35 | 4.99 | 19.35 | 4.99 |
| 500 | 19.91 | 4.96 | 19.91 | 4.96 | 19.91 | 4.96 | 19.91 | 4.96 |
| 400 | 20.44 | 4.91 | 20.45 | 4.92 | 20.44 | 4.91 | 20.45 | 4.92 |
| 300 | 21.07 | 4.95 | 21.08 | 4.96 | 21.07 | 4.95 | 21.07 | 4.95 |
| 200 | 21.73 | 5.03 | 21.73 | 5.03 | 21.73 | 5.03 | 21.74 | 5.04 |
| 100 | 22.69 | 5.48 | 22.70 | 5.49 | 22.69 | 5.48 | 22.70 | 5.49 |
| 32 | 23.90 | 6.36 | 23.91 | 6.37 | 23.91 | 6.37 | 23.91 | 6.37 |
| 8 | 25.25 | 7.58 | 25.26 | 7.59 | 25.26 | 7.59 | 25.26 | 7.59 |
| 2 | 28.74 | 11.05 | 28.75 | 11.06 | 28.75 | 11.06 | 28.75 | 11.06 |
| 0 | 32.08 | XXXX | 32.08 | XXXX | 32.08 | XXXX | 32.08 | XXXX |

CASE I-B GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 763. | 764. | 765. | 766. |
| INTERVAL | 6.00HR | 6.00HR | 6.00HR | 6.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 30.87 | -3.57 | 30.86 | -3.58 | 30.87 | -3.57 | 30.86 | -3.58 |
| -0.125 | 28.81 | 0.01 | 28.81 | 0.01 | 28.81 | 0.01 | 28.81 | 0.01 |
| -0.250 | 29.00 | 0.32 | 29.00 | 0.32 | 29.01 | 0.33 | 29.00 | 0.32 |
| -0.500 | 28.01 | 0.07 | 28.01 | 0.07 | 27.99 | 0.05 | 28.01 | 0.07 |
| -1.000 | 25.56 | -0.02 | 25.57 | -0.01 | 25.57 | -0.01 | 25.57 | -0.01 |
| -2.000 | 20.51 | -0.01 | 20.51 | -0.01 | 20.51 | -0.01 | 20.50 | -0.02 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 3.47 | 2.78 | 3.47 | 2.78 | 3.47 | 2.78 | 3.47 | 2.78 |
| 2 | 1.70 | 1.49 | 1.70 | 1.49 | 1.70 | 1.49 | 1.70 | 1.49 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| S(D) | 25.00 | 0.30 | 25.04 | 0.34 | 25.05 | 0.35 | 25.04 | 0.34 |
| R(N) | 15.83 | XXXX | 15.80 | XXXX | 15.83 | XXXX | 15.80 | XXXX |
| Q(C,0) | 4.40 | XXXX | 4.40 | XXXX | 4.40 | XXXX | 4.40 | XXXX |
| Q(E,0) | 10.13 | XXXX | 10.13 | XXXX | 10.13 | XXXX | 10.13 | XXXX |
| Q(S,0) | 1.29 | XXXX | 1.29 | XXXX | 1.29 | XXXX | 1.29 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| TAU | 8.78 | XXXX | 8.80 | XXXX | 8.80 | XXXX | 8.82 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| E | 23.50 | XXXX | 23.50 | XXXX | 23.40 | XXXX | 23.40 | XXXX |

CASE I-B

GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 8289 | 8284 | 8274 | 8279 |
| TAPE NO. | 767. | 768. | 769. | 770. |
| INTERVAL | 2.00HR | 2.00HR | 2.00HR | 2.00HR |

U COMPONENT (M/SEC)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | -4.52 | -0.00 | -4.52 | -0.00 | -4.52 | -0.00 | -4.52 | -0.00 |
| 1000 | -3.22 | -0.81 | -3.70 | -1.30 | -3.98 | -1.57 | -4.14 | -1.73 |
| 900 | -2.96 | -0.38 | -3.08 | -0.50 | -3.15 | -0.57 | -3.20 | -0.63 |
| 800 | -2.75 | -0.04 | -2.80 | -0.09 | -2.83 | -0.12 | -2.86 | -0.15 |
| 700 | -2.56 | 0.31 | -2.59 | 0.28 | -2.61 | 0.26 | -2.63 | 0.24 |
| 600 | -2.39 | 0.62 | -2.41 | 0.60 | -2.42 | 0.59 | -2.42 | 0.59 |
| 500 | -2.23 | 0.94 | -2.24 | 0.93 | -2.24 | 0.93 | -2.25 | 0.92 |
| 400 | -2.09 | 1.13 | -2.09 | 1.13 | -2.10 | 1.12 | -2.10 | 1.12 |
| 300 | -1.96 | 0.64 | -1.96 | 0.64 | -1.96 | 0.64 | -1.96 | 0.64 |
| 200 | -1.83 | -0.52 | -1.83 | -0.52 | -1.83 | -0.52 | -1.83 | -0.52 |
| 100 | -1.67 | -2.05 | -1.67 | -2.05 | -1.67 | -2.05 | -1.67 | -2.05 |
| 32 | -1.48 | -1.98 | -1.48 | -1.98 | -1.48 | -1.98 | -1.48 | -1.98 |
| 0 | -1.23 | -1.39 | -1.23 | -1.39 | -1.23 | -1.39 | -1.24 | -1.40 |

V COMPONENT (M/SEC)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|-------|------|-------|------|-------|------|-------|
| GEO | 5.91 | -0.01 | 5.91 | -0.01 | 5.91 | -0.01 | 5.91 | -0.01 |
| 1000 | 3.07 | 0.77 | 4.75 | 2.45 | 5.58 | 3.28 | 5.98 | 3.68 |
| 900 | 3.86 | 0.97 | 4.19 | 1.30 | 4.39 | 1.49 | 4.52 | 1.63 |
| 800 | 4.28 | 0.73 | 4.39 | 0.34 | 4.47 | 0.92 | 4.52 | 0.97 |
| 700 | 4.51 | 0.35 | 4.55 | 0.39 | 4.59 | 0.43 | 4.61 | 0.45 |
| 600 | 4.60 | -0.20 | 4.63 | -0.18 | 4.64 | -0.16 | 4.65 | -0.15 |
| 500 | 4.59 | -0.83 | 4.60 | -0.82 | 4.61 | -0.81 | 4.62 | -0.80 |
| 400 | 4.48 | -1.59 | 4.49 | -1.58 | 4.50 | -1.57 | 4.50 | -1.57 |
| 300 | 4.31 | -2.03 | 4.31 | -2.03 | 4.32 | -2.02 | 4.32 | -2.02 |
| 200 | 4.03 | -1.48 | 4.03 | -1.48 | 4.03 | -1.48 | 4.04 | -1.47 |
| 100 | 3.63 | -0.07 | 3.63 | -0.07 | 3.63 | -0.07 | 3.63 | -0.07 |
| 32 | 3.07 | 1.43 | 3.07 | 1.43 | 3.07 | 1.43 | 3.06 | 1.42 |
| 0 | 2.51 | 1.91 | 2.51 | 1.91 | 2.51 | 1.91 | 2.51 | 1.91 |

CASE 1-B GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 767. | 768. | 769. | 770. |
| INTERVAL | 2.00HR | 2.00HR | 2.00HR | 2.00HR |

AIR TEMPERATURE (DEG C)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 21.82 | 0.40 | 21.83 | 0.41 | 21.84 | 0.42 | 21.84 | 0.42 |
| 900 | 23.10 | 1.24 | 23.11 | 1.25 | 23.11 | 1.25 | 23.11 | 1.25 |
| 800 | 23.79 | 1.49 | 23.81 | 1.51 | 23.80 | 1.50 | 23.81 | 1.51 |
| 700 | 24.31 | 1.58 | 24.31 | 1.58 | 24.30 | 1.57 | 24.30 | 1.57 |
| 600 | 24.67 | 1.50 | 24.66 | 1.49 | 24.66 | 1.49 | 24.66 | 1.49 |
| 500 | 24.96 | 1.35 | 24.95 | 1.34 | 24.95 | 1.34 | 24.96 | 1.35 |
| 400 | 25.18 | 1.01 | 25.18 | 1.01 | 25.18 | 1.01 | 25.19 | 1.02 |
| 300 | 25.39 | 0.30 | 25.39 | 0.30 | 25.39 | 0.30 | 25.40 | 0.31 |
| 200 | 25.56 | -0.40 | 25.56 | -0.40 | 25.56 | -0.40 | 25.56 | -0.40 |
| 100 | 25.79 | -0.53 | 25.79 | -0.53 | 25.79 | -0.53 | 25.79 | -0.53 |
| 52 | 26.04 | -0.46 | 26.04 | -0.46 | 26.03 | -0.47 | 26.04 | -0.46 |
| 8 | 26.49 | -0.18 | 26.49 | -0.18 | 26.49 | -0.18 | 26.49 | -0.18 |
| 2 | 27.51 | 0.81 | 27.51 | 0.81 | 27.51 | 0.81 | 27.51 | 0.81 |
| 0 | 28.46 | XXXX | 28.47 | XXXX | 28.46 | XXXX | 28.46 | XXXX |

VAPOR PRESSURE (MB)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| 1000 | 13.21 | 0.87 | 13.25 | 0.91 | 13.27 | 0.93 | 13.29 | 0.95 |
| 900 | 14.36 | 1.32 | 14.41 | 1.37 | 14.40 | 1.36 | 14.43 | 1.39 |
| 800 | 15.13 | 1.39 | 15.18 | 1.44 | 15.15 | 1.41 | 15.19 | 1.45 |
| 700 | 15.80 | 1.37 | 15.84 | 1.41 | 15.79 | 1.36 | 15.84 | 1.41 |
| 600 | 16.35 | 1.23 | 16.37 | 1.25 | 16.31 | 1.19 | 16.38 | 1.26 |
| 500 | 16.91 | 1.09 | 16.91 | 1.09 | 16.80 | 0.98 | 16.91 | 1.09 |
| 400 | 17.40 | 0.89 | 17.41 | 0.90 | 17.27 | 0.76 | 17.41 | 0.90 |
| 300 | 17.96 | 0.75 | 17.97 | 0.76 | 17.95 | 0.64 | 17.96 | 0.75 |
| 200 | 18.56 | 0.66 | 18.58 | 0.68 | 18.48 | 0.58 | 18.56 | 0.66 |
| 100 | 19.35 | 0.89 | 19.37 | 0.91 | 19.28 | 0.82 | 19.35 | 0.89 |
| 52 | 20.35 | 1.52 | 20.37 | 1.54 | 20.30 | 1.47 | 20.36 | 1.53 |
| 8 | 21.44 | 2.48 | 21.46 | 2.50 | 21.41 | 2.45 | 21.45 | 2.49 |
| 2 | 24.06 | 5.07 | 24.03 | 5.05 | 24.02 | 5.03 | 24.06 | 5.07 |
| 0 | 26.52 | XXXX | 26.52 | XXXX | 26.52 | XXXX | 26.50 | XXXX |

CASE I-B GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 767. | 768. | 769. | 770. |
| INTERVAL | 2.00HR | 2.00HR | 2.00HR | 2.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| C.000 | 26.63 | 0.28 | 26.63 | 0.28 | 26.63 | 0.28 | 26.63 | 0.28 |
| -0.125 | 28.58 | 0.12 | 28.59 | 0.13 | 28.59 | 0.13 | 28.59 | 0.13 |
| -0.250 | 29.21 | 0.12 | 29.22 | 0.13 | 29.22 | 0.13 | 29.21 | 0.12 |
| -0.500 | 27.99 | -0.02 | 27.98 | -0.03 | 27.99 | -0.02 | 27.99 | -0.02 |
| -1.000 | 25.58 | -0.02 | 25.59 | -0.01 | 25.57 | -0.03 | 25.58 | -0.02 |
| -2.000 | 20.51 | -0.01 | 20.51 | -0.01 | 20.51 | -0.01 | 20.51 | -0.01 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 2.80 | 2.18 | 2.78 | 2.16 | 2.80 | 2.18 | 2.80 | 2.18 |
| 2 | 1.35 | 1.10 | 1.34 | 1.09 | 1.35 | 1.10 | 1.35 | 1.10 |

SURFACE ENERGY TERMS (LY/SFC)X1000

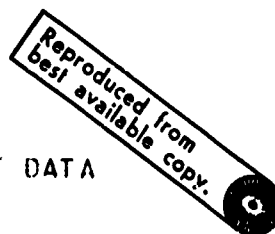
| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|-------|-------|-------|-------|-------|
| S(D) | 12.00 | 0.00 | 11.99 | -0.01 | 11.99 | -0.01 | 11.95 | -0.05 |
| R(N) | 6.69 | XXXX | 6.69 | XXXX | 6.69 | XXXX | 6.69 | XXXX |
| Q(C,0) | 1.13 | XXXX | 1.13 | XXXX | 1.13 | XXXX | 1.13 | XXXX |
| Q(E,0) | 5.03 | XXXX | 5.03 | XXXX | 5.03 | XXXX | 5.03 | XXXX |
| Q(S,0) | 0.53 | XXXX | 0.53 | XXXX | 0.53 | XXXX | 0.53 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| TAU | 4.72 | XXXX | 4.74 | XXXX | 4.74 | XXXX | 4.74 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 3.60 | XXXX | 3.60 | XXXX | 3.60 | XXXX | 3.60 | XXXX |



CASE I-B GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 8279 | 8294 | 5674 | 5669 |
| TAPE NO. | 771. | 772. | 773. | 774. |
| INTERVAL | 2.00HR | 2.00HR | 1.00HR | 1.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GE0 | -4.52 | -0.00 | -4.52 | -0.00 | -4.17 | 0.01 | -4.17 | 0.01 |
| 1000 | -4.25 | -1.84 | -4.31 | -1.90 | -2.44 | -0.43 | -2.97 | -0.96 |
| 900 | -3.23 | -0.65 | -3.26 | -0.68 | -2.35 | -0.32 | -2.41 | -0.39 |
| 800 | -2.88 | -0.16 | -2.89 | -0.18 | -2.26 | -0.20 | -2.27 | -0.21 |
| 700 | -2.63 | 0.24 | -2.64 | 0.23 | -2.15 | -0.05 | -2.15 | -0.05 |
| 600 | -2.43 | 0.58 | -2.43 | 0.58 | -1.98 | 0.12 | -1.98 | 0.12 |
| 500 | -2.25 | 0.92 | -2.26 | 0.91 | -1.76 | 0.39 | -1.76 | 0.39 |
| 400 | -2.11 | 1.11 | -2.11 | 1.11 | -1.49 | 0.70 | -1.49 | 0.70 |
| 300 | -1.96 | 0.64 | -1.96 | 0.64 | -1.16 | 1.14 | -1.15 | 1.15 |
| 200 | -1.83 | -0.52 | -1.83 | -0.52 | -0.79 | 0.16 | -0.79 | 0.16 |
| 100 | -1.67 | -2.05 | -1.67 | -2.05 | -0.39 | -1.08 | -0.40 | -1.09 |
| 32 | -1.47 | -1.97 | -1.47 | -1.97 | -0.16 | -1.41 | -0.16 | -1.41 |
| 8 | -1.23 | -1.39 | -1.23 | -1.39 | -0.09 | -0.49 | -0.10 | -0.50 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|-------|------|-------|------|-------|------|-------|
| GE0 | 5.91 | -0.01 | 5.91 | -0.01 | 4.16 | -0.02 | 4.17 | -0.01 |
| 1000 | 6.17 | 3.87 | 6.23 | 3.93 | 2.38 | 0.48 | 3.30 | 1.40 |
| 900 | 4.59 | 1.69 | 4.64 | 1.74 | 3.14 | 0.64 | 3.23 | 0.73 |
| 800 | 4.55 | 1.00 | 4.57 | 1.02 | 3.75 | 0.65 | 3.81 | 0.71 |
| 700 | 4.63 | 0.47 | 4.63 | 0.47 | 4.36 | 0.65 | 4.36 | 0.65 |
| 600 | 4.66 | -0.14 | 4.67 | -0.13 | 4.84 | 0.53 | 4.84 | 0.53 |
| 500 | 4.62 | -0.80 | 4.63 | -0.80 | 5.20 | 0.30 | 5.19 | 0.28 |
| 400 | 4.50 | -1.57 | 4.50 | -1.57 | 5.39 | -0.31 | 5.39 | -0.31 |
| 300 | 4.32 | -2.02 | 4.32 | -2.02 | 5.40 | -1.30 | 5.41 | -1.28 |
| 200 | 4.03 | -1.48 | 4.03 | -1.48 | 5.15 | -1.06 | 5.16 | -1.05 |
| 100 | 3.63 | -0.07 | 3.63 | -0.07 | 4.58 | -0.42 | 4.59 | -0.41 |
| 32 | 3.07 | 1.43 | 3.07 | 1.43 | 3.72 | 0.42 | 3.73 | 0.43 |
| 8 | 2.51 | 1.91 | 2.51 | 1.91 | 2.92 | 1.32 | 2.92 | 1.32 |

Reproduced from
best available copy.

CASE I-B GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 771. 2.00HR | 772. 2.00HR | 773. 1.00HR | 774. 1.00HR |
|----------------------|----------------|----------------|----------------|----------------|
|----------------------|----------------|----------------|----------------|----------------|

AIR TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 21.85 | 0.43 | 21.85 | 0.43 | 21.37 | -0.24 | 21.36 | -0.25 |
| 900 | 23.11 | 1.25 | 23.11 | 1.25 | 22.48 | 0.32 | 22.47 | 0.31 |
| 800 | 23.80 | 1.50 | 23.80 | 1.50 | 23.19 | 0.49 | 23.19 | 0.49 |
| 700 | 24.31 | 1.58 | 24.31 | 1.58 | 23.84 | 0.59 | 23.83 | 0.58 |
| 600 | 24.66 | 1.49 | 24.66 | 1.49 | 24.38 | 0.59 | 24.38 | 0.59 |
| 500 | 24.95 | 1.34 | 24.96 | 1.35 | 24.87 | 0.53 | 24.87 | 0.53 |
| 400 | 25.19 | 1.02 | 25.18 | 1.01 | 25.29 | 0.48 | 25.28 | 0.47 |
| 300 | 25.39 | 0.30 | 25.38 | 0.29 | 25.63 | 0.23 | 25.63 | 0.28 |
| 200 | 25.56 | -0.40 | 25.57 | -0.39 | 25.84 | -0.23 | 25.84 | -0.23 |
| 100 | 25.78 | -0.54 | 25.79 | -0.53 | 25.93 | -0.91 | 25.93 | -0.91 |
| 32 | 26.04 | -0.46 | 26.03 | -0.47 | 25.80 | -0.21 | 25.81 | -0.20 |
| 8 | 26.49 | -0.18 | 26.48 | -0.19 | 25.71 | 0.88 | 25.72 | 0.89 |
| 2 | 27.51 | 0.81 | 27.51 | 0.81 | 25.52 | 0.93 | 25.53 | 0.94 |
| 0 | 28.47 | XXXX | 28.47 | XXXX | 25.29 | XXXX | 25.29 | XXXX |

VAPOR PRESSURE (MB)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|------|-------|------|-------|------|-------|------|
| 1000 | 13.31 | 0.97 | 13.31 | 0.97 | 12.74 | 0.32 | 12.75 | 0.33 |
| 900 | 14.44 | 1.40 | 14.45 | 1.41 | 13.72 | 0.58 | 13.72 | 0.58 |
| 800 | 15.21 | 1.47 | 15.19 | 1.45 | 14.53 | 0.66 | 14.54 | 0.67 |
| 700 | 15.85 | 1.42 | 15.84 | 1.41 | 15.29 | 0.70 | 15.29 | 0.70 |
| 600 | 16.38 | 1.26 | 16.37 | 1.25 | 15.91 | 0.60 | 15.92 | 0.61 |
| 500 | 16.92 | 1.10 | 16.91 | 1.09 | 16.53 | 0.50 | 16.54 | 0.51 |
| 400 | 17.41 | 0.90 | 17.41 | 0.90 | 17.09 | 0.34 | 17.11 | 0.36 |
| 300 | 17.97 | 0.76 | 17.97 | 0.76 | 17.67 | 0.19 | 17.70 | 0.22 |
| 200 | 18.57 | 0.67 | 18.57 | 0.67 | 18.36 | 0.16 | 18.33 | 0.13 |
| 100 | 19.36 | 0.90 | 19.36 | 0.90 | 19.09 | 0.31 | 19.06 | 0.28 |
| 32 | 20.36 | 1.53 | 20.36 | 1.53 | 19.97 | 0.82 | 19.96 | 0.81 |
| 8 | 21.45 | 2.49 | 21.45 | 2.49 | 20.93 | 1.64 | 20.91 | 1.62 |
| 2 | 24.07 | 5.98 | 24.07 | 5.98 | 22.61 | 3.29 | 22.59 | 3.27 |
| 0 | 26.51 | XXXX | 26.52 | XXXX | 24.75 | XXXX | 24.72 | XXXX |

CASE I-H GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 771. | 772. | 773. | 774. |
| INTERVAL | 2.00HR | 2.00HR | 1.00HR | 1.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| C.000 | 26.63 | 0.28 | 26.63 | 0.28 | 26.05 | -0.04 | 26.05 | -0.04 |
| -0.125 | 28.59 | 0.13 | 28.59 | 0.13 | 28.74 | 0.05 | 28.74 | 0.05 |
| -0.250 | 29.22 | 0.13 | 29.21 | 0.12 | 29.28 | 0.07 | 29.28 | 0.07 |
| -0.500 | 27.98 | -0.03 | 27.99 | -0.02 | 27.98 | -0.01 | 27.97 | -0.02 |
| -1.000 | 25.58 | -0.02 | 25.58 | -0.02 | 25.57 | -0.00 | 25.58 | 0.01 |
| -2.000 | 20.51 | -0.01 | 20.50 | -0.02 | 20.51 | -0.01 | 20.51 | -0.01 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 2.80 | 2.18 | 2.80 | 2.18 | 2.93 | 1.28 | 2.93 | 1.28 |
| 2 | 1.35 | 1.10 | 1.35 | 1.10 | 1.64 | 0.83 | 1.64 | 0.83 |

SURFACE ENERGY TERMS (JY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|------|-------|------|
| S(D) | 11.99 | -0.01 | 11.99 | -0.01 | 6.11 | 0.01 | 6.10 | 0.00 |
| R(M) | 6.69 | XXXX | 6.69 | XXXX | 2.61 | XXXX | 2.61 | XXXX |
| Q(C,G) | 1.13 | XXXX | 1.13 | XXXX | -0.19 | XXXX | -0.19 | XXXX |
| Q(F,) | 5.02 | XXXX | 5.02 | XXXX | 3.01 | XXXX | 3.01 | XXXX |
| Q(S,0) | 0.53 | XXXX | 0.53 | XXXX | -0.21 | XXXX | -0.21 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| TAU | 4.76 | XXXX | 4.72 | XXXX | 3.94 | XXXX | 3.92 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 3.60 | XXXX | 3.60 | XXXX | 1.20 | XXXX | 1.20 | XXXX |

CASE I-B

GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 5674 | 5644 | 5644 | 5634 |
| TAPE NO. | 775. | 776. | 777. | 778. |
| INTERVAL | 1.00HR | 1.00HR | 1.00HR | 1.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GE0 | -4.17 | 0.01 | -4.17 | 0.01 | -4.17 | 0.01 | -4.17 | 0.01 |
| 1000 | -3.34 | -1.33 | -3.61 | -1.60 | -3.80 | -1.79 | -3.93 | -1.92 |
| 900 | -2.45 | -0.42 | -2.49 | -0.46 | -2.52 | -0.49 | -2.54 | -0.51 |
| 800 | -2.28 | -0.22 | -2.30 | -0.24 | -2.31 | -0.25 | -2.31 | -0.25 |
| 700 | -2.15 | -0.05 | -2.16 | -0.06 | -2.16 | -0.06 | -2.17 | -0.07 |
| 600 | -1.98 | 0.12 | -1.99 | 0.11 | -1.99 | 0.11 | -1.99 | 0.11 |
| 500 | -1.76 | 0.39 | -1.76 | 0.39 | -1.76 | 0.39 | -1.76 | 0.39 |
| 400 | -1.49 | 0.70 | -1.49 | 0.70 | -1.49 | 0.70 | -1.48 | 0.72 |
| 300 | -1.15 | 1.15 | -1.15 | 1.15 | -1.16 | 1.14 | -1.15 | 1.15 |
| 200 | -0.79 | 0.16 | -0.78 | 0.17 | -0.79 | 0.16 | -0.78 | 0.17 |
| 100 | -0.39 | -1.08 | -0.39 | -1.08 | -0.39 | -1.08 | -0.39 | -1.08 |
| 32 | -0.17 | -1.42 | -0.16 | -1.41 | -0.16 | -1.41 | -0.16 | -1.41 |
| 8 | -0.10 | -0.50 | -0.10 | -0.50 | -0.09 | -0.49 | -0.09 | -0.49 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|-------|------|-------|------|-------|------|-------|
| GE0 | 4.17 | -0.01 | 4.17 | -0.01 | 4.17 | -0.01 | 4.17 | -0.01 |
| 1000 | 3.95 | 2.05 | 4.36 | 2.47 | 4.64 | 2.74 | 4.81 | 2.91 |
| 900 | 3.29 | 0.79 | 3.35 | 0.85 | 3.38 | 0.88 | 3.41 | 0.91 |
| 800 | 3.82 | 0.72 | 3.83 | 0.73 | 3.84 | 0.74 | 3.84 | 0.74 |
| 700 | 4.36 | 0.65 | 4.36 | 0.65 | 4.36 | 0.65 | 4.36 | 0.65 |
| 600 | 4.84 | 0.53 | 4.85 | 0.54 | 4.84 | 0.53 | 4.84 | 0.53 |
| 500 | 5.19 | 0.28 | 5.20 | 0.30 | 5.19 | 0.28 | 5.19 | 0.28 |
| 400 | 5.39 | -0.31 | 5.40 | -0.30 | 5.39 | -0.31 | 5.39 | -0.31 |
| 300 | 5.41 | -1.29 | 5.40 | -1.30 | 5.40 | -1.30 | 5.40 | -1.30 |
| 200 | 5.15 | -1.06 | 5.16 | -1.05 | 5.15 | -1.06 | 5.15 | -1.06 |
| 100 | 4.59 | -0.41 | 4.59 | -0.41 | 4.59 | -0.41 | 4.59 | -0.41 |
| 32 | 3.72 | 0.42 | 3.72 | 0.42 | 3.72 | 0.42 | 3.72 | 0.42 |
| 8 | 2.92 | 1.32 | 2.92 | 1.32 | 2.92 | 1.32 | 2.92 | 1.32 |

CASE I-B GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 775. | 776. | 777. | 778. |
| INTERVAL | 1.00HR | 1.00HR | 1.00HR | 1.00HR |

AIR TEMPERATURE (DEG C)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 21.37 | -0.24 | 21.36 | -0.25 | 21.37 | -0.24 | 21.37 | -0.24 |
| 900 | 22.48 | 0.32 | 22.48 | 0.32 | 22.48 | 0.32 | 22.48 | 0.32 |
| 800 | 23.19 | 0.49 | 23.20 | 0.50 | 23.19 | 0.49 | 23.19 | 0.49 |
| 700 | 23.84 | 0.59 | 23.83 | 0.58 | 23.84 | 0.59 | 23.83 | 0.58 |
| 600 | 24.38 | 0.59 | 24.38 | 0.59 | 24.38 | 0.59 | 24.37 | 0.58 |
| 500 | 24.89 | 0.55 | 24.87 | 0.53 | 24.87 | 0.53 | 24.88 | 0.54 |
| 400 | 25.29 | 0.48 | 25.29 | 0.48 | 25.29 | 0.48 | 25.29 | 0.48 |
| 300 | 25.62 | 0.27 | 25.63 | 0.28 | 25.63 | 0.28 | 25.63 | 0.28 |
| 200 | 25.85 | -0.22 | 25.84 | -0.23 | 25.84 | -0.23 | 25.81 | -0.26 |
| 100 | 25.93 | -0.91 | 25.93 | -0.91 | 25.93 | -0.91 | 25.93 | -0.91 |
| 32 | 25.80 | -0.21 | 25.80 | -0.21 | 25.80 | -0.21 | 25.80 | -0.21 |
| 8 | 25.71 | 0.88 | 25.71 | 0.88 | 25.71 | 0.88 | 25.71 | 0.88 |
| 2 | 25.52 | 0.93 | 25.52 | 0.93 | 25.52 | 0.93 | 25.51 | 0.92 |
| 0 | 25.29 | XXXX | 25.27 | XXXX | 25.28 | XXXX | 25.27 | XXXX |

VAPOR PRESSURE (MB)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| 1000 | 12.77 | 0.35 | 12.77 | 0.35 | 12.76 | 0.34 | 12.79 | 0.37 |
| 900 | 13.72 | 0.58 | 13.73 | 0.59 | 13.72 | 0.58 | 13.74 | 0.60 |
| 800 | 14.54 | 0.67 | 14.54 | 0.67 | 14.54 | 0.67 | 14.55 | 0.68 |
| 700 | 15.29 | 0.70 | 15.29 | 0.70 | 15.29 | 0.70 | 15.29 | 0.70 |
| 600 | 15.92 | 0.61 | 15.91 | 0.60 | 15.90 | 0.59 | 15.93 | 0.62 |
| 500 | 16.55 | 0.52 | 16.54 | 0.51 | 16.52 | 0.49 | 16.55 | 0.52 |
| 400 | 17.12 | 0.37 | 17.11 | 0.36 | 17.11 | 0.36 | 17.12 | 0.37 |
| 300 | 17.71 | 0.23 | 17.71 | 0.23 | 17.71 | 0.23 | 17.71 | 0.23 |
| 200 | 18.33 | 0.13 | 18.33 | 0.13 | 18.32 | 0.12 | 18.31 | 0.11 |
| 100 | 19.06 | 0.28 | 19.06 | 0.28 | 19.06 | 0.28 | 19.04 | 0.26 |
| 32 | 19.95 | 0.80 | 19.96 | 0.81 | 19.95 | 0.80 | 19.94 | 0.79 |
| 8 | 20.91 | 1.62 | 20.91 | 1.62 | 20.91 | 1.62 | 20.89 | 1.60 |
| 2 | 22.59 | 3.27 | 22.59 | 3.27 | 22.60 | 3.28 | 22.58 | 3.26 |
| 0 | 24.72 | XXXX | 24.71 | XXXX | 24.72 | XXXX | 24.71 | XXXX |

CASE I-B GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 775. | 776. | 777. | 778. |
| INTERVAL | 1.00HR | 1.00HR | 1.00HR | 1.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 26.05 | -0.04 | 26.04 | -0.05 | 26.05 | -0.04 | 26.04 | -0.05 |
| -0.125 | 28.73 | 0.04 | 28.74 | 0.05 | 28.73 | 0.04 | 28.74 | 0.05 |
| -0.250 | 29.28 | 0.07 | 29.28 | 0.07 | 29.28 | 0.07 | 29.27 | 0.06 |
| -0.500 | 27.97 | -0.02 | 27.98 | -0.01 | 27.98 | -0.01 | 27.97 | -0.02 |
| -1.000 | 25.58 | 0.01 | 25.58 | 0.01 | 25.57 | -0.00 | 25.58 | 0.01 |
| -2.000 | 20.51 | -0.01 | 20.50 | -0.02 | 20.50 | -0.02 | 20.51 | -0.01 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 2.92 | 1.27 | 2.92 | 1.27 | 2.92 | 1.27 | 2.93 | 1.28 |
| 2 | 1.63 | 0.82 | 1.63 | 0.82 | 1.63 | 0.82 | 1.63 | 0.82 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|-------|-------|-------|-------|-------|
| S(D) | 6.10 | 0.00 | 6.07 | -0.03 | 6.07 | -0.03 | 6.07 | -0.03 |
| R(N) | 2.61 | XXXX | 2.59 | XXXX | 2.59 | XXXX | 2.59 | XXXX |
| Q(C,0) | -0.19 | XXXX | -0.19 | XXXX | -0.19 | XXXX | -0.19 | XXXX |
| Q(E,0) | 3.01 | XXXX | 3.01 | XXXX | 3.00 | XXXX | 3.01 | XXXX |
| Q(S,0) | -0.20 | XXXX | -0.21 | XXXX | -0.21 | XXXX | -0.21 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| AU | 3.92 | XXXX | 3.92 | XXXX | 3.92 | XXXX | 3.92 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (CM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 1.20 | XXXX | 1.20 | XXXX | 1.10 | XXXX | 1.20 | XXXX |

ROOT MEAN SQUARES OF THE DIFFERENCES BETWEEN
THE PREDICTED AND OBSERVED ATMOSPHERIC COLUMNS

CASE I-B

12.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 3.29 | 1.56 | 29.56 | 14.03 | 28.86 |
| PERSIST DIFF | | 2.48 | 4.25 | 5.02 | 2.85 | 4.09 |
| GPAC DIFF | 755. | 1.06 | 3.06 | 3.37 | 10.72 | 2.45 |
| GPAC DIFF | 756. | 0.74 | 3.04 | 3.33 | 10.79 | 2.45 |
| GPAC DIFF | 757. | 0.69 | 3.01 | 3.31 | 10.80 | 2.45 |
| GPAC DIFF | 758. | 0.69 | 2.99 | 3.30 | 10.80 | 2.45 |
| GPAC DIFF | 759. | 0.70 | 2.98 | 3.29 | 10.81 | 2.45 |
| GPAC DIFF | 760. | 0.71 | 2.97 | 3.30 | 10.78 | 2.45 |

CASE I-B

6.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 1.66 | 1.20 | 27.57 | 15.46 | 27.97 |
| PERSIST DIFF | | 1.16 | 4.19 | 3.23 | 1.42 | 3.33 |
| GPAC DIFF | 761. | 0.71 | 4.76 | 1.46 | 5.97 | 1.47 |
| GPAC DIFF | 762. | 0.75 | 4.73 | 1.47 | 5.99 | 1.46 |
| GPAC DIFF | 763. | 0.72 | 4.66 | 1.47 | 6.00 | 1.46 |
| GPAC DIFF | 764. | 0.70 | 4.60 | 1.47 | 6.00 | 1.47 |
| GPAC DIFF | 765. | 0.69 | 4.55 | 1.46 | 6.00 | 1.46 |
| GPAC DIFF | 766. | 0.68 | 4.52 | 1.46 | 6.00 | 1.47 |

ROOT MEAN SQUARES OF THE DIFFERENCES BETWEEN
THE PREDICTED AND OBSERVED ATMOSPHERIC COLUMNS

CASE I-B

2.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 2.58 | 4.43 | 24.42 | 16.41 | 26.49 |
| PERSIST DIFF | | 0.84 | 1.21 | 0.97 | 0.47 | 0.22 |
| GPAC DIFF | 767. | 1.04 | 1.16 | 1.00 | 1.88 | 0.13 |
| GPAC DIFF | 768. | 1.08 | 1.35 | 1.00 | 1.90 | 0.14 |
| GPAC DIFF | 769. | 1.11 | 1.50 | 1.00 | 1.85 | 0.14 |
| GPAC DIFF | 770. | 1.13 | 1.58 | 1.00 | 1.89 | 0.14 |
| GPAC DIFF | 771. | 1.15 | 1.62 | 1.00 | 1.90 | 0.14 |
| GPAC DIFF | 772. | 1.15 | 1.64 | 1.00 | 1.90 | 0.14 |

CASE I-B

1.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 2.09 | 4.37 | 24.38 | 16.65 | 26.51 |
| PERSIST DIFF | | 0.24 | 0.55 | 0.39 | 0.24 | 0.14 |
| GPAC DIFF | 773. | 0.66 | 0.73 | 0.57 | 1.13 | 0.04 |
| GPAC DIFF | 774. | 0.71 | 0.82 | 0.57 | 1.12 | 0.04 |
| GPAC DIFF | 775. | 0.76 | 0.93 | 0.57 | 1.12 | 0.04 |
| GPAC DIFF | 776. | 0.80 | 1.00 | 0.57 | 1.12 | 0.04 |
| GPAC DIFF | 777. | 0.83 | 1.06 | 0.57 | 1.12 | 0.04 |
| GPAC DIFF | 778. | 0.85 | 1.10 | 0.57 | 1.12 | 0.04 |

CASE 11

TAPE LOG

| TAPE NO. | FCST INT | SM | KMB DB | SCG | ADV | GEO | REMARKS |
|-------------|-------------|----|-----------|-----|-----|-----|----------|
| 678. | 12.00 | A | V | A | N | O | |
| 679. | 12.00 | A | V | A | N | I | GEO=0.10 |
| 680. | 12.00 | A | V | A | N | I | GEO=0.30 |
| 681. | 12.00 | A | V | A | N | I | GEO=0.40 |
| 682. | 12.00 | A | V | A | N | I | GEO=0.50 |
| 683. | 12.00 | A | V | A | N | I | GEO=0.60 |
| 684. | 12.00 | A | V | A | N | I | GEO=0.70 |
| 685. | 12.00 | A | V | A | N | I | GEO=0.80 |
| 686. | 12.00 | A | V | A | N | I | GEO=1.00 |
| 691. | 6.00 | A | V | A | N | O | |
| 692. | 6.00 | A | V | A | N | I | GEO=0.10 |
| 693. | 6.00 | A | V | A | N | I | GEO=0.30 |
| 694. | 6.00 | A | V | A | N | I | GEO=0.40 |
| 695. | 6.00 | A | V | A | N | I | GEO=0.50 |
| 696. | 6.00 | A | V | A | N | I | GEO=0.60 |
| 697. | 6.00 | A | V | A | N | I | GEO=0.70 |
| 698. | 6.00 | A | V | A | N | I | GEO=0.80 |
| 699. | 6.00 | A | V | A | N | I | GEO=1.00 |
| 704. | 2.00 | A | V | A | N | O | |
| 705. | 2.00 | A | V | A | N | I | GEO=0.10 |
| 706. | 2.00 | A | V | A | N | I | GEO=0.30 |
| 707. | 2.00 | A | V | A | N | I | GEO=0.40 |
| 708. | 2.00 | A | V | A | N | I | GEO=0.50 |
| 709. | 2.00 | A | V | A | N | I | GEO=0.60 |
| 710. | 2.00 | A | V | A | N | I | GEO=0.70 |
| 711. | 2.00 | A | V | A | N | I | GEO=0.80 |
| 712. | 2.00 | A | V | A | N | I | GEO=1.00 |
| 717. | 1.00 | A | V | A | N | O | |
| 718. | 1.00 | A | V | A | N | I | GEO=0.10 |
| 719. | 1.00 | A | V | A | N | I | GEO=0.30 |
| 720. | 1.00 | A | V | A | N | I | GEO=0.40 |
| 721. | 1.00 | A | V | A | N | I | GEO=0.50 |
| 722. | 1.00 | A | V | A | N | I | GEO=0.60 |
| 723. | 1.00 | A | V | A | N | I | GEO=0.70 |
| 724. | 1.00 | A | V | A | N | I | GEO=0.80 |
| 725. | 1.00 | A | V | A | N | I | GEO=1.00 |

CASE II INITIAL CONDITIONS - 0000L 8 FEBRUARY 1962
(PAGE 1 OF 2 PAGES)

SOIL PARAMETERS

| LEVEL (M) | TEMP (DEG C) | | |
|--------------|-----------------|------------------------------|---|
| 0.000 | 9.52 | LAMBDA | $= 0.59 \text{ CAL/CM}^3 \text{ DEG}$ |
| -0.125 | 9.06 | MU/ LAMBDA | $= 0.0037 \text{ CM}^2/\text{SEC}$ |
| -0.250 | 9.42 | (MU < LAMBDA) ^{1/2} | $= 0.036 \text{ CAL}^2/\text{CM}^4 \text{ DEG SEC}$ |
| -0.500 | 10.84 | Z(0) | $= 2.0 \text{ CM}$ |
| -1.000 | 12.42 | S(0) | $= 0.0004 \text{ CAL/CM}^2 \text{ SEC MB}$ |
| -2.000 | 15.81 | G | $= 3500 \text{ CM}^2 \text{ SEC DEG/CAL}$ |

RADIATION PARAMETERS

| | | | |
|---------------------|------------------|-------------|---------------------------|
| LOCAL TIME = | 0000 | TURBIDITY = | 0.24 |
| DELTA | = -15.30 DEG | PSI = | 1.027 |
| R X 10 ⁵ | = 1.35 DEG C/SEC | F(C) = | 0.90 |
| CLOUD CLASS = | 1 | ALBEDO = | 0.25 |
| E*(8) | = 10.86 MB | M = | 0.620 |
| EPSILON | = 0.950 | N = | 0.0415 MB ^{-1/2} |
| PHI | = 32.5 DEG | H = | -180.0 DEG |

HORIZONTAL GRADIENTS

| LEVEL (M) | DE/DX (MB/100-KM) | DE/DY | DT/DX (DEG C/100-KM) | DT/DY |
|--------------|----------------------|-------|-------------------------|-------|
| 200 | 0.64 | -1.53 | 0.50 | -1.80 |
| 600 | 0.60 | -1.10 | -0.32 | -1.60 |
| 1000 | 0.58 | -0.68 | -1.14 | -1.38 |

CASE II INITIAL CONDITIONS - 0000L 8 FEBRUARY 1962
(PAGE 2 OF 2 PAGES)

| LEVEL (M) | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|--------------|--------------------------------|-------|------------------------|------------------------|
| 1000 | 13.98 | 8.23 | 14.43 | 5.19 |
| 900 | 14.86 | 9.90 | 14.64 | 5.63 |
| 800 | 15.75 | 11.60 | 14.84 | 6.56 |
| 700 | 16.62 | 13.30 | 15.04 | 7.54 |
| 600 | 17.53 | 14.98 | 15.25 | 8.53 |
| 500 | 18.38 | 16.70 | 15.44 | 9.35 |
| 400 | 16.00 | 18.13 | 15.30 | 9.95 |
| 300 | 13.25 | 17.35 | 14.70 | 10.54 |
| 200 | 9.80 | 15.40 | 14.35 | 11.14 |
| 100 | 5.80 | 12.20 | 13.80 | 11.17 |
| 32 | 3.00 | 8.75 | 13.70 | 10.95 |
| 8 | 1.50 | 5.50 | 13.63 | 10.86 |

ADVECTION TERMS
-1 5
(SEC X 10)

| LEVEL (M) | ALPHA(1) | BETA(1) | ALPHA(2) | BETA(2) |
|--------------|----------|---------|----------|---------|
| 200 | -0.46 | 1.37 | 0.00 | -2.25 |
| 600 | 0.02 | 0.68 | 0.00 | -1.63 |
| 1000 | 0.50 | 0.01 | 0.00 | -1.00 |

SURFACE CONTOUR GRADIENTS

| PREDICTION INTERVAL (HR) | AZIMUTH (DEG FROM NORTH) | MAGNITUDE (FT/100-KM) |
|--------------------------------|-----------------------------|--------------------------|
| 0 | 119.00 | 35.31 |
| 1 | 112.80 | 28.91 |
| 2 | 105.70 | 28.00 |
| 6 | 120.00 | 28.00 |
| 12 | 136.40 | 44.44 |

CASE II COMPARISON DATA FROM DALLAS (1 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|-------|------------------------|------------------------|
| GEO | 4.29 | 10.21 | | |
| 1000 | 12.18 | 6.75 | 14.51 | 4.88 |
| 900 | 12.92 | 7.99 | 14.63 | 5.26 |
| 800 | 13.69 | 9.21 | 14.74 | 6.22 |
| 700 | 14.45 | 10.46 | 14.85 | 7.23 |
| 600 | 15.25 | 11.70 | 14.95 | 8.25 |
| 500 | 16.09 | 12.95 | 15.08 | 9.13 |
| 400 | 16.29 | 14.25 | 15.08 | 9.84 |
| 300 | 13.68 | 14.89 | 14.63 | 10.52 |
| 200 | 10.20 | 14.45 | 14.49 | 11.23 |
| 100 | 6.60 | 13.00 | 13.31 | 11.27 |
| 32 | 3.83 | 9.30 | 13.20 | 11.01 |
| 8 | 2.05 | 6.00 | 13.28 | 10.90 |
| 2 | XXXX | XXXX | 13.30 | 10.89 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| 0.000 | 9.61 |
| -0.125 | 9.12 |
| -0.250 | 9.46 |
| -0.500 | 10.82 |
| -1.000 | 12.44 |
| -2.000 | 15.81 |

| | |
|---|------|
| 8 | 6.34 |
| 2 | 0.54 |

SURFACE SHEAR STRESS
(DYNES/CM SQ.)X10
TAU= XXXX

SURFACE ENERGY TERMS (LY/SEC)X1000

S(D)= 0.00
R(N)= XXXX
Q(C,0)= XXXX

Q(E,0)= XXXX
Q(S,0)= XXXX

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

E= XXXX

Reproduced from
best available copy.

CASE II COMPARISON DATA FROM DALLAS (2 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|-------|------------------------|------------------------|
| GEO | 2.90 | 10.32 | | |
| 1000 | 10.85 | 6.10 | 14.45 | 4.56 |
| 900 | 11.64 | 7.00 | 14.40 | 4.89 |
| 800 | 12.40 | 7.90 | 14.38 | 5.87 |
| 700 | 13.20 | 8.80 | 14.35 | 6.92 |
| 600 | 13.98 | 9.70 | 14.31 | 7.98 |
| 500 | 14.74 | 10.60 | 14.28 | 8.91 |
| 400 | 15.05 | 11.57 | 13.90 | 9.72 |
| 300 | 12.80 | 12.63 | 13.76 | 10.51 |
| 200 | 10.28 | 13.58 | 14.00 | 11.32 |
| 100 | 7.15 | 12.31 | 13.05 | 11.36 |
| 32 | 4.00 | 9.30 | 12.80 | 11.07 |
| 8 | 2.05 | 6.10 | 12.85 | 10.95 |
| 2 | XXXX | XXXX | 12.87 | 10.93 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| 0.000 | 9.65 |
| -0.125 | 9.22 |
| -0.250 | 9.50 |
| -0.500 | 10.80 |
| -1.000 | 12.44 |
| -2.000 | 15.81 |

| | |
|---|------|
| 2 | 6.44 |
| 2 | 7.53 |

SURFACE SHEAR STRESS
(DYNES/CM SQ.)X10
TAU= XXXX

SURFACE ENERGY TERMS (LY/SEC)X1000

| | | | |
|---------|------|---------|------|
| S(D)= | 0.00 | Q(F,C)= | XXXX |
| R(N)= | XXXX | Q(S,O)= | XXXX |
| Q(C,O)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

E= XXXX

CASE II COMPARISON DATA FROM DALLAS (6 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|------|------------------------|------------------------|
| GEO | 3.83 | 9.98 | | |
| 1000 | 6.83 | 2.63 | 15.80 | 3.30 |
| 900 | 8.20 | 2.85 | 15.85 | 3.40 |
| 800 | 9.60 | 3.10 | 15.90 | 4.49 |
| 700 | 11.00 | 3.37 | 15.95 | 5.68 |
| 600 | 12.80 | 3.89 | 16.00 | 6.87 |
| 500 | 14.96 | 4.76 | 16.05 | 8.05 |
| 400 | 16.52 | 5.99 | 16.10 | 9.26 |
| 300 | 14.10 | 7.50 | 14.00 | 10.45 |
| 200 | 10.30 | 9.20 | 13.89 | 11.65 |
| 100 | 7.30 | 9.83 | 13.56 | 11.74 |
| 32 | 4.13 | 7.35 | 12.90 | 11.30 |
| 8 | 2.00 | 4.30 | 12.50 | 11.13 |
| 2 | XXXX | XXXX | 12.38 | 11.10 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| C.000 | 9.63 |
| -0.125 | 9.43 |
| -0.250 | 9.66 |
| -0.500 | 10.77 |
| -1.000 | 12.44 |
| -2.000 | 15.81 |

| | |
|---|------|
| 8 | 4.74 |
| 2 | 2.75 |

SURFACE SHEAR STRESS
(DYNES/CM SQ.)X10
TAU= XXXX

SURFACE ENERGY TERMS (LY/SEC)X1000

| | | | |
|---------|------|---------|------|
| S(D)= | 0.00 | Q(F,C)= | XXXX |
| R(N)= | XXXX | Q(S,C)= | XXXX |
| Q(C,C)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

E= XXXX

CASE II COMPARISON DATA FROM DALLAS (12 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|-------|------------------------|------------------------|
| GEO | 12.30 | 11.72 | | |
| 1000 | 8.44 | 3.30 | 16.61 | 3.11 |
| 900 | 8.35 | 4.08 | 16.49 | 3.26 |
| 800 | 8.28 | 4.85 | 16.37 | 3.90 |
| 700 | 8.20 | 5.62 | 16.25 | 4.59 |
| 600 | 8.00 | 6.40 | 16.14 | 5.29 |
| 500 | 7.50 | 7.19 | 16.02 | 5.97 |
| 400 | 6.40 | 7.90 | 16.07 | 6.67 |
| 300 | 5.45 | 8.14 | 16.72 | 7.32 |
| 200 | 4.98 | 8.19 | 17.65 | 7.98 |
| 100 | 4.85 | 8.25 | 18.64 | 8.07 |
| 32 | 4.40 | 7.90 | 19.63 | 7.89 |
| 8 | 3.20 | 5.20 | 20.25 | 7.82 |
| 2 | XXXX | XXXX | 20.45 | 7.81 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| 0.000 | 13.27 |
| -0.125 | 10.05 |
| -0.250 | 9.83 |
| -0.500 | 10.75 |
| -1.000 | 12.44 |
| -2.000 | 15.81 |

| | |
|---|------|
| 8 | 6.11 |
| 2 | 2.62 |

SURFACE SHEAR STRESS
(DYNES/CM SQ.)X10
TAU= XXXX

SURFACE ENERGY TERMS (LY/SEC)X1000

| | | | |
|---------|-------|---------|------|
| S(D)= | 14.30 | Q(E,G)= | XXXX |
| R(N)= | XXXX | Q(S,C)= | XXXX |
| Q(C,O)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

E= XXXX

CASE II

GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|---------|---------|---------|---------|
| K(CM SQ/SEC) | 21979 | 21974 | 21899 | 21859 |
| TAPE NO. | 678. | 679. | 680. | 681. |
| INTERVAL | 12.00HR | 12.00HR | 12.00HR | 12.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 12.28 | -0.02 | 12.28 | -0.02 | 12.28 | -0.02 | 12.28 | -0.02 |
| 1000 | 11.93 | 3.49 | 11.76 | 3.32 | 11.55 | 3.11 | 11.52 | 3.08 |
| 900 | 10.38 | 2.02 | 10.34 | 1.99 | 10.21 | 1.86 | 10.18 | 1.83 |
| 800 | 9.59 | 1.31 | 9.60 | 1.32 | 9.52 | 1.24 | 9.50 | 1.22 |
| 700 | 9.06 | 0.86 | 9.09 | 0.89 | 9.03 | 0.83 | 9.01 | 0.81 |
| 600 | 8.62 | 0.62 | 8.66 | 0.66 | 8.63 | 0.63 | 8.61 | 0.61 |
| 500 | 8.23 | 0.73 | 8.27 | 0.77 | 8.26 | 0.76 | 8.24 | 0.74 |
| 400 | 7.84 | 1.44 | 7.90 | 1.50 | 7.89 | 1.49 | 7.88 | 1.48 |
| 300 | 7.45 | 2.01 | 7.49 | 2.05 | 7.49 | 2.05 | 7.48 | 2.03 |
| 200 | 6.97 | 1.99 | 7.03 | 2.05 | 7.02 | 2.05 | 7.01 | 2.03 |
| 100 | 6.29 | 1.44 | 6.35 | 1.50 | 6.35 | 1.50 | 6.34 | 1.49 |
| 32 | 5.36 | 0.97 | 5.41 | 1.01 | 5.41 | 1.02 | 5.40 | 1.00 |
| 8 | 4.34 | 1.14 | 4.38 | 1.18 | 4.38 | 1.18 | 4.35 | 1.15 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 11.71 | -0.01 | 11.71 | -0.01 | 11.71 | -0.01 | 11.71 | -0.01 |
| 1000 | 19.20 | 15.90 | 17.99 | 14.69 | 16.34 | 13.04 | 15.77 | 12.47 |
| 900 | 18.15 | 14.07 | 17.77 | 13.69 | 17.21 | 13.13 | 17.02 | 12.94 |
| 800 | 17.43 | 12.58 | 17.22 | 12.37 | 16.91 | 12.06 | 16.80 | 11.95 |
| 700 | 16.82 | 11.20 | 16.69 | 11.07 | 16.47 | 10.85 | 16.39 | 10.77 |
| 600 | 16.28 | 9.88 | 16.18 | 9.78 | 16.02 | 9.62 | 15.96 | 9.56 |
| 500 | 15.76 | 8.57 | 15.68 | 8.49 | 15.55 | 8.36 | 15.50 | 8.31 |
| 400 | 15.20 | 7.30 | 15.13 | 7.23 | 15.03 | 7.13 | 14.99 | 7.09 |
| 300 | 14.59 | 6.45 | 14.54 | 6.40 | 14.46 | 6.32 | 14.42 | 6.28 |
| 200 | 13.84 | 5.65 | 13.79 | 5.60 | 13.72 | 5.53 | 13.69 | 5.50 |
| 100 | 12.72 | 4.47 | 12.69 | 4.44 | 12.63 | 4.38 | 12.60 | 4.35 |
| 32 | 11.02 | 3.12 | 11.00 | 3.10 | 10.95 | 3.05 | 10.93 | 3.03 |
| 8 | 8.98 | 3.78 | 8.96 | 3.76 | 8.92 | 3.72 | 8.90 | 3.70 |

CASE II GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

Reproduced from
best available copy.

| TAPE NO. | 678. | 679. | 680. | 681. |
|----------|---------|---------|---------|---------|
| INTERVAL | 12.00HR | 12.00HR | 12.00HR | 12.00HR |

AIR TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|------|-------|------|-------|------|-------|------|
| 1000 | 22.01 | 5.40 | 21.96 | 5.35 | 21.83 | 5.22 | 21.78 | 5.17 |
| 900 | 21.63 | 5.14 | 21.61 | 5.12 | 21.53 | 5.04 | 21.49 | 5.00 |
| 800 | 21.45 | 5.08 | 21.44 | 5.07 | 21.37 | 5.00 | 21.34 | 4.97 |
| 700 | 21.36 | 5.11 | 21.37 | 5.12 | 21.32 | 5.07 | 21.31 | 5.06 |
| 600 | 21.30 | 5.16 | 21.31 | 5.17 | 21.28 | 5.14 | 21.26 | 5.12 |
| 500 | 21.28 | 5.26 | 21.30 | 5.28 | 21.27 | 5.25 | 21.24 | 5.22 |
| 400 | 21.25 | 5.18 | 21.28 | 5.21 | 21.25 | 5.18 | 21.23 | 5.16 |
| 300 | 21.26 | 4.54 | 21.29 | 4.57 | 21.27 | 4.55 | 21.25 | 4.53 |
| 200 | 21.30 | 3.65 | 21.32 | 3.67 | 21.30 | 3.65 | 21.30 | 3.65 |
| 100 | 21.36 | 2.72 | 21.37 | 2.75 | 21.37 | 2.73 | 21.35 | 2.71 |
| 32 | 21.46 | 1.83 | 21.50 | 1.87 | 21.49 | 1.86 | 21.47 | 1.84 |
| 8 | 21.76 | 1.51 | 21.79 | 1.54 | 21.78 | 1.53 | 21.79 | 1.54 |
| 2 | 22.31 | 1.86 | 22.33 | 1.88 | 22.33 | 1.88 | 22.34 | 1.99 |
| 0 | 22.83 | XXXX | 22.84 | XXXX | 22.86 | XXXX | 22.86 | XXXX |

VAPOR PRESSURE (MR)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|------|-------|------|-------|------|-------|------|
| 1000 | 11.51 | 8.40 | 11.57 | 8.46 | 11.62 | 8.51 | 11.63 | 8.52 |
| 900 | 11.95 | 8.69 | 12.02 | 8.76 | 12.08 | 8.82 | 12.08 | 8.82 |
| 800 | 12.27 | 8.37 | 12.35 | 8.45 | 12.41 | 8.51 | 12.43 | 8.53 |
| 700 | 12.56 | 7.97 | 12.64 | 8.05 | 12.72 | 8.13 | 12.72 | 8.13 |
| 600 | 12.80 | 7.51 | 12.90 | 7.61 | 12.95 | 7.66 | 12.97 | 7.68 |
| 500 | 13.05 | 7.04 | 13.13 | 7.16 | 13.21 | 7.24 | 13.23 | 7.26 |
| 400 | 13.28 | 6.61 | 13.37 | 6.70 | 13.44 | 6.77 | 13.46 | 6.79 |
| 300 | 13.54 | 6.22 | 13.52 | 6.30 | 13.71 | 6.39 | 13.72 | 6.40 |
| 200 | 13.83 | 5.85 | 13.92 | 5.94 | 14.01 | 6.03 | 14.02 | 6.04 |
| 100 | 14.14 | 6.07 | 14.23 | 6.16 | 14.32 | 6.25 | 14.34 | 6.27 |
| 32 | 14.52 | 6.63 | 14.61 | 6.72 | 14.70 | 6.81 | 14.72 | 6.83 |
| 8 | 14.91 | 7.09 | 15.02 | 7.20 | 15.07 | 7.25 | 15.10 | 7.28 |
| 2 | 15.71 | 7.90 | 15.81 | 8.00 | 15.88 | 8.07 | 15.90 | 8.09 |
| 0 | 16.48 | XXXX | 16.57 | XXXX | 16.65 | XXXX | 16.67 | XXXX |

CASE II GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|---------|---------|---------|---------|
| TAPE NO. | 678. | 679. | 680. | 681. |
| INTERVAL | 12.00HR | 12.00HR | 12.00HR | 12.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| C.000 | 15.52 | 2.25 | 15.55 | 2.28 | 15.56 | 2.29 | 15.57 | 2.30 |
| -0.125 | 10.59 | 0.54 | 10.61 | 0.56 | 10.62 | 0.57 | 10.61 | 0.56 |
| -0.250 | 9.85 | 0.02 | 9.85 | 0.02 | 9.86 | 0.03 | 9.86 | 0.03 |
| -0.500 | 10.77 | 0.02 | 10.76 | 0.01 | 10.76 | 0.01 | 10.76 | 0.01 |
| -1.000 | 12.46 | 0.02 | 12.46 | 0.02 | 12.45 | 0.01 | 12.47 | 0.03 |
| -2.000 | 15.79 | -0.02 | 15.78 | -0.03 | 15.78 | -0.03 | 15.78 | -0.03 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 9.98 | 3.87 | 9.97 | 3.86 | 9.94 | 3.83 | 9.91 | 3.80 |
| 2 | 4.87 | 2.25 | 4.87 | 2.25 | 4.86 | 2.24 | 4.85 | 2.23 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| S(D) | 14.59 | 0.29 | 14.58 | 0.28 | 14.59 | 0.29 | 14.59 | 0.29 |
| R(N) | 8.45 | XXXX | 8.45 | XXXX | 8.45 | XXXX | 8.45 | XXXX |
| Q(C,0) | 1.77 | XXXX | 1.77 | XXXX | 1.79 | XXXX | 1.81 | XXXX |
| Q(E,0) | 4.58 | XXXX | 4.57 | XXXX | 4.55 | XXXX | 4.54 | XXXX |
| Q(S,0) | 2.10 | XXXX | 2.10 | XXXX | 2.10 | XXXX | 2.09 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 49.58 | XXXX | 49.58 | XXXX | 49.00 | XXXX | 49.02 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| E | 11.90 | XXXX | 11.90 | XXXX | 11.90 | XXXX | 11.90 | XXXX |

CASE II

GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|---------|---------|---------|---------|
| K(CM SQ/SEC) | 21844 | 21814 | 21784 | 21769 |
| TAPE NO. | 682. | 683. | 684. | 685. |
| INTERVAL | 12.00HR | 12.00HR | 12.00HR | 12.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 12.28 | -0.02 | 12.28 | -0.02 | 12.29 | -0.01 | 12.28 | -0.02 |
| 1000 | 11.52 | 3.08 | 11.52 | 3.08 | 11.54 | 3.10 | 11.56 | 3.12 |
| 900 | 10.16 | 1.81 | 10.14 | 1.79 | 10.13 | 1.77 | 10.12 | 1.77 |
| 800 | 9.47 | 1.19 | 9.46 | 1.18 | 9.45 | 1.17 | 9.44 | 1.16 |
| 700 | 8.99 | 0.79 | 8.98 | 0.78 | 8.96 | 0.76 | 8.96 | 0.76 |
| 600 | 8.59 | 0.59 | 8.58 | 0.58 | 8.57 | 0.57 | 8.56 | 0.56 |
| 500 | 8.23 | 0.73 | 8.21 | 0.71 | 8.20 | 0.70 | 8.20 | 0.70 |
| 400 | 7.86 | 1.47 | 7.85 | 1.45 | 7.84 | 1.44 | 7.84 | 1.44 |
| 300 | 7.47 | 2.02 | 7.46 | 2.01 | 7.45 | 2.01 | 7.45 | 2.01 |
| 200 | 7.01 | 2.03 | 6.99 | 2.02 | 6.99 | 2.01 | 6.98 | 2.01 |
| 100 | 6.34 | 1.49 | 6.32 | 1.47 | 6.32 | 1.47 | 6.32 | 1.47 |
| 32 | 5.40 | 1.01 | 5.39 | 0.99 | 5.39 | 0.99 | 5.38 | 0.98 |
| 8 | 4.37 | 1.17 | 4.37 | 1.17 | 4.35 | 1.15 | 4.36 | 1.16 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 11.71 | -0.01 | 11.71 | -0.01 | 11.71 | -0.01 | 11.71 | -0.01 |
| 1000 | 15.32 | 12.02 | 14.96 | 11.66 | 14.65 | 11.35 | 14.40 | 11.10 |
| 900 | 16.85 | 12.77 | 15.72 | 12.64 | 16.61 | 12.53 | 16.52 | 12.44 |
| 800 | 16.70 | 11.85 | 16.63 | 11.77 | 16.55 | 11.70 | 16.50 | 11.65 |
| 700 | 16.32 | 10.70 | 16.27 | 10.65 | 16.22 | 10.60 | 16.18 | 10.56 |
| 600 | 15.91 | 9.51 | 15.87 | 9.47 | 15.83 | 9.43 | 15.79 | 9.39 |
| 500 | 15.46 | 8.27 | 15.42 | 8.23 | 15.39 | 8.20 | 15.37 | 8.18 |
| 400 | 14.95 | 7.05 | 14.93 | 7.03 | 14.90 | 7.00 | 14.88 | 6.98 |
| 300 | 14.38 | 6.24 | 14.36 | 6.22 | 14.34 | 6.20 | 14.32 | 6.18 |
| 200 | 13.66 | 5.47 | 13.64 | 5.45 | 13.63 | 5.44 | 13.61 | 5.41 |
| 100 | 12.58 | 4.33 | 12.56 | 4.31 | 12.54 | 4.29 | 12.53 | 4.28 |
| 32 | 10.91 | 3.01 | 10.89 | 2.99 | 10.88 | 2.98 | 10.87 | 2.97 |
| 8 | 8.89 | 3.69 | 8.88 | 3.68 | 8.86 | 3.66 | 8.85 | 3.65 |

CASE II GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| | | | | |
|----------|---------|---------|---------|---------|
| TAPE NO. | 682. | 683. | 684. | 685. |
| INTERVAL | 12.00HR | 12.00HR | 12.00HR | 12.00HR |

AIR TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|------|-------|------|-------|------|-------|------|
| 1000 | 21.73 | 5.12 | 21.69 | 5.08 | 21.66 | 5.05 | 21.62 | 5.01 |
| 900 | 21.45 | 4.96 | 21.43 | 4.94 | 21.40 | 4.91 | 21.37 | 4.88 |
| 800 | 21.33 | 4.96 | 21.30 | 4.93 | 21.29 | 4.92 | 21.26 | 4.89 |
| 700 | 21.28 | 5.03 | 21.26 | 5.01 | 21.24 | 4.99 | 21.22 | 4.97 |
| 600 | 21.24 | 5.10 | 21.22 | 5.08 | 21.21 | 5.07 | 21.19 | 5.05 |
| 500 | 21.23 | 5.21 | 21.22 | 5.20 | 21.21 | 5.19 | 21.19 | 5.17 |
| 400 | 21.22 | 5.15 | 21.21 | 5.14 | 21.19 | 5.12 | 21.17 | 5.10 |
| 300 | 21.24 | 4.52 | 21.22 | 4.50 | 21.22 | 4.50 | 21.10 | 4.38 |
| 200 | 21.28 | 3.63 | 21.26 | 3.61 | 21.25 | 3.60 | 21.24 | 3.59 |
| 100 | 21.34 | 2.70 | 21.34 | 2.70 | 21.33 | 2.69 | 21.31 | 2.67 |
| 32 | 21.46 | 1.83 | 21.46 | 1.83 | 21.44 | 1.81 | 21.44 | 1.81 |
| 8 | 21.77 | 1.52 | 21.76 | 1.51 | 21.76 | 1.51 | 21.74 | 1.49 |
| 2 | 22.32 | 1.87 | 22.32 | 1.87 | 22.32 | 1.87 | 22.30 | 1.85 |
| 0 | 22.85 | XXXX | 22.85 | XXXX | 22.85 | XXXX | 22.84 | XXXX |

VAPOR PRESSURE (MB)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|------|-------|------|-------|------|-------|------|
| 1000 | 11.62 | 8.51 | 11.62 | 8.51 | 11.61 | 8.50 | 11.61 | 8.50 |
| 900 | 12.11 | 8.65 | 12.10 | 8.84 | 12.11 | 8.85 | 12.11 | 8.85 |
| 800 | 12.43 | 8.53 | 12.44 | 8.54 | 12.44 | 8.54 | 12.44 | 8.54 |
| 700 | 12.73 | 8.14 | 12.74 | 8.15 | 12.74 | 8.15 | 12.75 | 8.16 |
| 600 | 12.98 | 7.69 | 12.99 | 7.70 | 13.01 | 7.72 | 12.99 | 7.70 |
| 500 | 13.24 | 7.27 | 13.24 | 7.27 | 13.25 | 7.28 | 13.26 | 7.29 |
| 400 | 13.47 | 6.80 | 13.49 | 6.82 | 13.49 | 6.82 | 13.49 | 6.82 |
| 300 | 13.74 | 6.42 | 13.74 | 6.42 | 13.75 | 6.43 | 13.76 | 6.44 |
| 200 | 14.03 | 6.05 | 14.04 | 6.06 | 14.05 | 6.07 | 14.05 | 6.07 |
| 100 | 14.35 | 6.28 | 14.36 | 6.29 | 14.37 | 6.30 | 14.39 | 6.32 |
| 32 | 14.73 | 6.84 | 14.74 | 6.85 | 14.74 | 6.85 | 14.74 | 6.85 |
| 8 | 15.11 | 7.29 | 15.13 | 7.31 | 15.13 | 7.31 | 15.12 | 7.30 |
| 2 | 15.91 | 8.10 | 15.92 | 8.11 | 15.93 | 8.12 | 15.92 | 8.11 |
| 0 | 16.67 | XXXX | 16.68 | XXXX | 16.69 | XXXX | 16.69 | XXXX |

CASE II GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|---------|---------|---------|---------|
| TAPE NO. | 682. | 683. | 684. | 685. |
| INTERVAL | 12.00HR | 12.00HR | 12.00HR | 12.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 15.57 | 2.30 | 15.57 | 2.30 | 15.58 | 2.31 | 15.57 | 2.30 |
| -0.125 | 10.63 | 0.58 | 10.62 | 0.57 | 10.63 | 0.58 | 10.62 | 0.57 |
| -0.250 | 9.86 | 0.03 | 9.87 | 0.04 | 9.85 | 0.02 | 9.85 | 0.02 |
| -0.500 | 10.77 | 0.02 | 10.76 | 0.01 | 10.77 | 0.02 | 10.76 | 0.01 |
| -1.000 | 12.46 | 0.02 | 12.46 | 0.02 | 12.46 | 0.02 | 12.46 | 0.02 |
| -2.000 | 15.78 | -0.03 | 15.78 | -0.03 | 15.79 | -0.02 | 15.79 | -0.02 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 9.91 | 3.80 | 9.89 | 3.78 | 9.88 | 3.77 | 9.87 | 3.76 |
| 2 | 4.84 | 2.22 | 4.84 | 2.22 | 4.83 | 2.21 | 4.83 | 2.21 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| S(D) | 14.59 | 0.29 | 14.58 | 0.28 | 14.58 | 0.28 | 14.58 | 0.28 |
| R(N) | 8.45 | XXXX | 8.45 | XXXX | 8.45 | XXXX | 8.45 | XXXX |
| Q(C,0) | 1.82 | XXXX | 1.82 | XXXX | 1.83 | XXXX | 1.83 | XXXX |
| Q(F,0) | 4.53 | XXXX | 4.53 | XXXX | 4.52 | XXXX | 4.51 | XXXX |
| Q(S,0) | 2.09 | XXXX | 2.09 | XXXX | 2.09 | XXXX | 2.09 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 48.94 | XXXX | 48.84 | XXXX | 48.70 | XXXX | 48.66 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| E | 11.90 | XXXX | 11.90 | XXXX | 11.90 | XXXX | 11.90 | XXXX |

CASE II

GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|---------|--------|--------|--------|
| K(CM SQ/SEC) | 21729 | 4584 | 4689 | 5069 |
| TAPF NO. | 686. | 691. | 692. | 693. |
| INTERVAL | 12.00HR | 6.00HR | 6.00HR | 6.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|--------|------|--------|------|--------|
| GE0 | 12.28 | -0.02 | 3.83 | 0.00 | 3.83 | 0.00 | 3.83 | 0.00 |
| 1000 | 11.62 | 3.18 | 10.63 | 3.80 | 8.80 | 1.97 | 6.73 | -0.05 |
| 900 | 10.11 | 1.76 | 9.09 | 0.89 | 8.72 | 0.52 | 8.24 | 0.04 |
| 800 | 9.42 | 1.14 | 8.16 | -1.44 | 8.02 | -1.58 | 7.81 | -1.79 |
| 700 | 8.95 | 0.75 | 7.49 | -3.51 | 7.41 | -3.59 | 7.31 | -3.69 |
| 600 | 8.55 | 0.55 | 6.93 | -5.87 | 6.90 | -5.90 | 6.84 | -5.96 |
| 500 | 8.19 | 0.69 | 6.45 | -8.51 | 6.43 | -8.53 | 6.40 | -8.56 |
| 400 | 7.82 | 1.43 | 5.97 | -10.55 | 5.97 | -10.55 | 5.96 | -10.56 |
| 300 | 7.45 | 2.00 | 5.49 | -8.61 | 5.51 | -8.59 | 5.51 | -8.59 |
| 200 | 6.97 | 1.99 | 4.95 | -5.35 | 4.97 | -5.33 | 4.99 | -5.31 |
| 100 | 6.30 | 1.45 | 4.23 | -3.07 | 4.25 | -3.05 | 4.29 | -3.01 |
| 32 | 5.38 | 0.98 | 3.33 | -0.80 | 3.36 | -0.77 | 3.43 | -0.70 |
| 8 | 4.35 | 1.15 | 2.51 | 0.51 | 2.51 | 0.51 | 2.61 | 0.61 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|------|-------|------|-------|-------|-------|
| GE0 | 11.71 | -0.01 | 9.97 | -0.01 | 9.97 | -0.01 | 9.97 | -0.01 |
| 1000 | 14.01 | 10.71 | 7.79 | 5.16 | 9.55 | 7.02 | 10.82 | 8.19 |
| 900 | 16.37 | 12.29 | 7.42 | 4.57 | 8.12 | 5.27 | 8.81 | 5.96 |
| 800 | 16.40 | 11.55 | 7.00 | 3.90 | 7.42 | 4.32 | 7.89 | 4.79 |
| 700 | 16.12 | 10.50 | 6.60 | 3.23 | 6.80 | 2.52 | 7.26 | 3.39 |
| 600 | 15.74 | 9.34 | 6.28 | 2.39 | 6.50 | 2.61 | 6.80 | 2.01 |
| 500 | 15.32 | 8.13 | 5.96 | 1.20 | 6.15 | 1.30 | 6.40 | 1.54 |
| 400 | 14.84 | 6.94 | 5.64 | -0.35 | 5.29 | -0.70 | 6.02 | 0.03 |
| 300 | 14.29 | 6.15 | 5.31 | -2.19 | 5.44 | -2.06 | 5.64 | -1.36 |
| 200 | 13.57 | 5.38 | 4.95 | -4.24 | 5.06 | -4.14 | 5.23 | -3.77 |
| 100 | 12.51 | 4.26 | 4.48 | -5.35 | 4.56 | -5.27 | 4.71 | -5.12 |
| 32 | 10.85 | 2.75 | 3.79 | -3.56 | 3.56 | -3.49 | 3.98 | -3.37 |
| 8 | 8.83 | 3.63 | 2.96 | -1.34 | 3.02 | -1.28 | 3.11 | -1.19 |

CASE II GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 686. 12.00HR | | 691. 6.00HR | | 692. 6.00HR | | 693. 6.00HR | |
|-------------------------|-----------------|------|----------------|-------|----------------|-------|----------------|-------|
| AIR TEMPERATURE (DEG C) | | | | | | | | |
| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 21.59 | 4.98 | 19.08 | 3.28 | 19.04 | 3.24 | 18.93 | 3.13 |
| 900 | 21.36 | 4.87 | 18.07 | 2.22 | 18.03 | 2.18 | 17.95 | 2.10 |
| 800 | 21.24 | 4.87 | 17.43 | 1.53 | 17.41 | 1.51 | 17.36 | 1.46 |
| 700 | 21.21 | 4.96 | 16.99 | 1.04 | 16.96 | 1.01 | 16.94 | 0.99 |
| 600 | 21.18 | 5.04 | 16.58 | 0.58 | 16.57 | 0.57 | 16.56 | 0.56 |
| 500 | 21.19 | 5.17 | 16.24 | 0.19 | 16.24 | 0.19 | 16.23 | 0.18 |
| 400 | 21.16 | 5.09 | 15.90 | -0.20 | 15.90 | -0.20 | 15.90 | -0.20 |
| 300 | 21.19 | 4.47 | 15.55 | 1.55 | 15.55 | 1.55 | 15.55 | 1.55 |
| 200 | 21.23 | 3.58 | 15.12 | 1.23 | 15.13 | 1.24 | 15.14 | 1.25 |
| 100 | 21.30 | 2.66 | 14.52 | 0.96 | 14.53 | 0.97 | 14.55 | 0.99 |
| 32 | 21.44 | 1.81 | 13.56 | 0.66 | 13.58 | 0.68 | 13.62 | 0.72 |
| 8 | 21.74 | 1.49 | 12.59 | 0.09 | 12.63 | 0.13 | 12.71 | 0.21 |
| 2 | 22.30 | 1.85 | 10.80 | -1.58 | 10.84 | -1.54 | 10.96 | -1.42 |
| 0 | 22.84 | XXXX | 9.01 | XXXX | 9.05 | XXXX | 9.21 | XXXX |
| VAPOR PRESSURE (MB) | | | | | | | | |
| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 11.61 | 8.50 | 8.32 | 5.02 | 8.54 | 5.24 | 8.78 | 5.48 |
| 900 | 12.09 | 8.83 | 8.75 | 5.35 | 8.91 | 5.51 | 9.07 | 5.67 |
| 800 | 12.44 | 8.54 | 9.03 | 4.54 | 9.15 | 4.66 | 9.29 | 4.80 |
| 700 | 12.74 | 8.15 | 9.27 | 3.59 | 9.36 | 3.68 | 9.47 | 3.79 |
| 600 | 12.99 | 7.70 | 9.45 | 2.58 | 9.52 | 2.65 | 9.62 | 2.75 |
| 500 | 13.26 | 7.29 | 9.63 | 1.58 | 9.69 | 1.64 | 9.78 | 1.73 |
| 400 | 13.49 | 6.92 | 9.79 | 0.53 | 9.84 | 0.58 | 9.92 | 0.66 |
| 300 | 13.77 | 6.45 | 9.96 | -0.49 | 10.04 | -0.41 | 10.08 | -0.37 |
| 200 | 14.05 | 6.07 | 10.13 | -1.52 | 10.17 | -1.48 | 10.24 | -1.41 |
| 100 | 14.39 | 6.32 | 10.29 | -1.45 | 10.33 | -1.41 | 10.39 | -1.35 |
| 32 | 14.75 | 6.86 | 10.42 | -0.88 | 10.46 | -0.84 | 10.52 | -0.78 |
| 8 | 15.13 | 7.31 | 10.54 | -0.59 | 10.59 | -0.54 | 10.65 | -0.48 |
| 2 | 15.93 | 8.12 | 10.69 | -0.41 | 10.74 | -0.36 | 10.80 | -0.30 |
| 0 | 16.70 | XXXX | 10.85 | XXXX | 10.90 | XXXX | 10.95 | XXXX |

CASE II GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|---------|--------|--------|--------|
| TAPE NO. | 686. | 691. | 692. | 693. |
| INTERVAL | 12.00HR | 6.00HR | 6.00HR | 6.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 15.57 | 2.30 | 9.75 | 0.12 | 9.79 | 0.16 | 9.81 | 0.18 |
| -0.125 | 10.62 | 0.57 | 9.50 | 0.07 | 9.49 | 0.06 | 9.51 | 0.08 |
| -0.250 | 9.86 | 0.03 | 9.59 | -0.07 | 9.61 | -0.05 | 9.59 | -0.07 |
| -0.500 | 10.76 | 0.01 | 10.77 | -0.00 | 10.77 | -0.00 | 10.76 | 0.01 |
| -1.000 | 12.47 | 0.03 | 12.44 | 0.00 | 12.44 | 0.00 | 12.44 | 0.00 |
| -2.000 | 15.78 | -0.03 | 15.78 | -0.03 | 15.78 | -0.03 | 15.77 | -0.04 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|-------|------|-------|------|-------|
| 8 | 9.84 | 3.73 | 3.89 | -0.85 | 3.93 | -0.81 | 4.07 | -0.67 |
| 2 | 4.82 | 2.20 | 1.95 | -0.80 | 1.97 | -0.79 | 2.04 | -0.71 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|-------|-------|------|-------|------|
| S(D) | 14.59 | 0.29 | -0.00 | -0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| R(N) | 8.45 | XXXX | -1.58 | XXXX | -1.59 | XXXX | -1.60 | XXXX |
| Q(C,0) | 1.84 | XXXX | -1.63 | XXXX | -1.64 | XXXX | -1.71 | XXXX |
| Q(E,0) | 4.51 | XXXX | 0.24 | XXXX | 0.24 | XXXX | 0.27 | XXXX |
| Q(S,0) | 2.09 | XXXX | -0.21 | XXXX | -0.20 | XXXX | -0.16 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|------|------|------|------|------|------|
| TAU | 48.50 | XXXX | 5.10 | XXXX | 5.22 | XXXX | 5.82 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|------|------|------|------|------|------|
| E | 11.90 | XXXX | 2.50 | XXXX | 2.90 | XXXX | 2.60 | XXXX |

CASE II

GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 5104 | 5244 | 5274 | 5264 |
| TAPE NO. | 694. | 695. | 696. | 697. |
| INTERVAL | 6.00HR | 6.00HR | 6.00HR | 6.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|--------|------|--------|------|--------|------|--------|
| GEO | 3.84 | 0.01 | 3.83 | 0.00 | 3.83 | 0.00 | 3.83 | 0.00 |
| 1000 | 6.21 | -0.62 | 5.79 | -1.04 | 5.49 | -1.34 | 5.26 | -1.57 |
| 900 | 8.08 | -0.12 | 7.97 | -0.23 | 7.86 | -0.34 | 7.78 | -0.42 |
| 800 | 7.74 | -1.86 | 7.70 | -1.90 | 7.64 | -1.96 | 7.60 | -2.00 |
| 700 | 7.27 | -3.73 | 7.25 | -3.75 | 7.21 | -3.79 | 7.19 | -3.81 |
| 600 | 6.82 | -5.98 | 6.81 | -5.99 | 6.78 | -6.02 | 6.77 | -6.03 |
| 500 | 6.39 | -8.57 | 6.38 | -8.58 | 6.36 | -8.60 | 6.36 | -8.60 |
| 400 | 5.95 | -10.57 | 5.95 | -10.57 | 5.95 | -10.57 | 5.95 | -10.57 |
| 300 | 5.51 | -8.59 | 5.51 | -8.59 | 5.51 | -8.59 | 5.51 | -8.59 |
| 200 | 4.99 | -5.31 | 4.99 | -5.31 | 5.01 | -5.29 | 4.99 | -5.31 |
| 100 | 4.29 | -3.01 | 4.29 | -3.01 | 4.31 | -2.99 | 4.30 | -3.00 |
| 32 | 3.42 | -0.71 | 3.43 | -0.70 | 3.45 | -0.68 | 3.45 | -0.68 |
| 8 | 2.60 | 0.60 | 2.61 | 0.61 | 2.62 | 0.62 | 2.58 | 0.58 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 9.97 | -0.01 | 9.98 | -0.00 | 9.98 | -0.00 | 9.98 | -0.00 |
| 1000 | 10.96 | 8.33 | 11.00 | 8.37 | 10.97 | 8.34 | 10.95 | 8.32 |
| 900 | 8.99 | 6.14 | 9.12 | 6.27 | 9.21 | 6.36 | 9.27 | 6.42 |
| 800 | 8.03 | 4.93 | 8.14 | 5.04 | 8.22 | 5.12 | 8.29 | 5.19 |
| 700 | 7.38 | 4.01 | 7.45 | 4.08 | 7.54 | 4.17 | 7.60 | 4.23 |
| 600 | 6.91 | 3.02 | 6.99 | 3.10 | 7.05 | 3.16 | 7.11 | 3.22 |
| 500 | 6.49 | 1.73 | 6.57 | 1.81 | 6.63 | 1.86 | 6.67 | 1.91 |
| 400 | 6.10 | 0.11 | 6.17 | 0.18 | 6.22 | 0.23 | 6.26 | 0.27 |
| 300 | 5.71 | -1.79 | 5.78 | -1.72 | 5.82 | -1.68 | 5.86 | -1.64 |
| 200 | 5.30 | -3.90 | 5.36 | -3.84 | 5.39 | -3.81 | 5.44 | -3.76 |
| 100 | 4.77 | -5.06 | 4.83 | -5.00 | 4.86 | -4.97 | 4.89 | -4.94 |
| 32 | 4.03 | -3.32 | 4.07 | -3.28 | 4.09 | -3.26 | 4.13 | -3.23 |
| 8 | 3.15 | -1.15 | 3.19 | -1.11 | 3.21 | -1.09 | 3.23 | -1.07 |

Reproduced from
best available copy.

CASE II GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 694. 6.00HR | 695. 6.00HR | 696. 6.00HR | 697. 6.00HR |
|----------------------|----------------|----------------|----------------|----------------|
|----------------------|----------------|----------------|----------------|----------------|

AIR TEMPERATURE (DEG C)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 18.87 | 3.07 | 18.83 | 3.03 | 18.79 | 2.99 | 18.74 | 2.94 |
| 900 | 17.92 | 2.07 | 17.91 | 2.06 | 17.87 | 2.02 | 17.85 | 2.00 |
| 800 | 17.34 | 1.44 | 17.32 | 1.42 | 17.31 | 1.41 | 17.30 | 1.40 |
| 700 | 16.92 | 0.97 | 16.92 | 0.97 | 16.91 | 0.96 | 16.91 | 0.96 |
| 600 | 16.55 | 0.55 | 16.55 | 0.55 | 16.55 | 0.55 | 16.54 | 0.54 |
| 500 | 16.23 | 0.18 | 16.23 | 0.18 | 16.23 | 0.18 | 16.22 | 0.17 |
| 400 | 15.90 | -0.20 | 15.91 | -0.19 | 15.90 | -0.20 | 15.90 | -0.20 |
| 300 | 15.56 | 1.56 | 15.56 | 1.56 | 15.56 | 1.56 | 15.56 | 1.56 |
| 200 | 15.14 | 1.25 | 15.15 | 1.26 | 15.15 | 1.26 | 15.15 | 1.26 |
| 100 | 14.56 | 1.00 | 14.57 | 1.01 | 14.59 | 1.03 | 14.59 | 1.03 |
| 32 | 13.64 | 0.74 | 13.66 | 0.76 | 13.67 | 0.77 | 13.67 | 0.77 |
| 8 | 12.72 | 0.22 | 12.74 | 0.24 | 12.76 | 0.26 | 12.76 | 0.26 |
| 2 | 10.99 | -1.39 | 11.01 | -1.37 | 11.03 | -1.35 | 11.04 | -1.34 |
| 0 | 9.25 | XXXX | 9.28 | XXXX | 9.30 | XXXX | 9.31 | XXXX |

VAPOR PRESSURE (MB)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 8.85 | 5.55 | 8.89 | 5.59 | 8.93 | 5.63 | 8.96 | 5.66 |
| 900 | 9.12 | 5.72 | 9.16 | 5.76 | 9.19 | 5.79 | 9.21 | 5.81 |
| 800 | 9.33 | 4.84 | 9.36 | 4.87 | 9.39 | 4.90 | 9.41 | 4.92 |
| 700 | 9.51 | 3.83 | 9.54 | 3.86 | 9.57 | 3.89 | 9.58 | 3.90 |
| 600 | 9.65 | 2.78 | 9.69 | 2.82 | 9.70 | 2.83 | 9.72 | 2.85 |
| 500 | 9.81 | 1.76 | 9.84 | 1.79 | 9.85 | 1.80 | 9.87 | 1.82 |
| 400 | 9.94 | 0.68 | 9.98 | 0.72 | 9.99 | 0.73 | 10.02 | 0.76 |
| 300 | 10.11 | -0.34 | 10.13 | -0.32 | 10.15 | -0.30 | 10.16 | -0.29 |
| 200 | 10.27 | -1.38 | 10.29 | -1.36 | 10.31 | -1.34 | 10.32 | -1.33 |
| 100 | 10.41 | -1.33 | 10.43 | -1.31 | 10.45 | -1.29 | 10.49 | -1.25 |
| 32 | 10.54 | -0.76 | 10.56 | -0.74 | 10.58 | -0.72 | 10.59 | -0.71 |
| 8 | 10.69 | -0.44 | 10.69 | -0.44 | 10.71 | -0.42 | 10.71 | -0.42 |
| 2 | 10.83 | -0.27 | 10.84 | -0.26 | 10.86 | -0.24 | 10.86 | -0.24 |
| 0 | 10.97 | XXXX | 10.99 | XXXX | 11.02 | XXXX | 11.02 | XXXX |

CASE II

GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| TAPE NO. INTERVAL | 694. 6.00HR | 695. 6.00HR | 696. 6.00HR | 697. 6.00HR |
|----------------------|----------------|----------------|----------------|----------------|
|----------------------|----------------|----------------|----------------|----------------|

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 9.82 | 0.19 | 9.83 | 0.20 | 9.83 | 0.20 | 9.84 | 0.21 |
| -0.125 | 9.51 | 0.08 | 9.49 | 0.06 | 9.51 | 0.08 | 9.50 | 0.07 |
| -0.250 | 9.59 | -0.07 | 9.59 | -0.07 | 9.60 | -0.06 | 9.59 | -0.07 |
| -0.500 | 10.77 | -0.00 | 10.77 | -0.00 | 10.79 | 0.02 | 10.77 | -0.00 |
| -1.000 | 12.44 | 0.00 | 12.44 | 0.00 | 12.44 | 0.00 | 12.44 | 0.00 |
| -2.000 | 15.77 | -0.04 | 15.78 | -0.03 | 15.78 | -0.03 | 15.78 | -0.03 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|-------|------|-------|------|-------|------|-------|
| 8 | 4.10 | -0.64 | 4.13 | -0.61 | 4.15 | -0.59 | 4.14 | -0.60 |
| 2 | 2.05 | -0.70 | 2.07 | -0.68 | 2.07 | -0.68 | 2.07 | -0.68 |

SURFACE ENERGY TERMS (LY/SEC)X1000

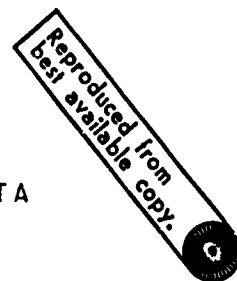
| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|------|-------|-------|
| S(D) | -0.00 | -0.00 | -0.00 | -0.00 | 0.00 | 0.00 | -0.00 | -0.00 |
| R(N) | -1.60 | XXXX | -1.61 | XXXX | -1.61 | XXXX | -1.61 | XXXX |
| Q(C,0) | -1.72 | XXXX | -1.74 | XXXX | -1.74 | XXXX | -1.74 | XXXX |
| Q(E,0) | 0.27 | XXXX | 0.28 | XXXX | 0.27 | XXXX | 0.27 | XXXX |
| Q(S,0) | -0.16 | XXXX | -0.15 | XXXX | -0.15 | XXXX | -0.15 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| TAU | 5.94 | XXXX | 6.06 | XXXX | 6.12 | XXXX | 6.12 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| F | 2.60 | XXXX | 2.90 | XXXX | 2.60 | XXXX | 2.60 | XXXX |



CASE II GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 5044 | 5454 | 15625 | 15564 |
| TAPE NO. | 698. | 699. | 704. | 705. |
| INTERVAL | 6.00HR | 6.00HR | 2.00HR | 2.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|--------|------|--------|-------|-------|-------|-------|
| GEO | 3.84 | 0.01 | 3.83 | 0.00 | 2.89 | -0.01 | 2.88 | -0.02 |
| 1000 | 5.07 | -1.76 | 4.83 | -2.00 | 13.97 | 3.12 | 12.45 | 1.60 |
| 900 | 7.75 | -0.45 | 7.61 | -0.59 | 13.95 | 2.31 | 13.58 | 1.94 |
| 800 | 7.59 | -2.01 | 7.51 | -2.09 | 13.58 | 1.14 | 13.42 | 1.72 |
| 700 | 7.19 | -3.81 | 7.14 | -3.86 | 13.18 | -0.02 | 13.09 | -0.11 |
| 600 | 6.78 | -6.02 | 6.73 | -6.07 | 12.77 | -1.21 | 12.71 | -1.27 |
| 500 | 6.36 | -8.60 | 6.34 | -8.62 | 12.34 | -2.40 | 12.29 | -2.45 |
| 400 | 5.95 | -10.57 | 5.93 | -10.59 | 11.88 | -3.18 | 11.83 | -3.22 |
| 300 | 5.49 | -8.61 | 5.49 | -8.61 | 11.34 | -1.46 | 11.31 | -1.49 |
| 200 | 4.97 | -5.33 | 5.00 | -5.30 | 10.68 | 0.40 | 10.65 | 0.37 |
| 100 | 4.24 | -3.06 | 4.31 | -2.99 | 9.68 | 2.53 | 9.65 | 2.50 |
| 32 | 3.29 | -0.84 | 3.46 | -0.67 | 8.25 | 4.25 | 8.22 | 4.22 |
| 8 | 2.39 | 0.39 | 2.64 | 0.64 | 6.61 | 4.55 | 6.57 | 4.52 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 9.98 | -0.00 | 9.98 | -0.00 | 10.31 | -0.01 | 10.31 | -0.01 |
| 1000 | 10.90 | 8.27 | 10.80 | 8.17 | 8.75 | 2.65 | 9.40 | 3.30 |
| 900 | 9.34 | 6.49 | 9.38 | 6.53 | 9.26 | 2.26 | 9.48 | 2.48 |
| 800 | 8.35 | 5.25 | 8.41 | 5.31 | 9.24 | 1.34 | 9.35 | 1.45 |
| 700 | 7.66 | 4.29 | 7.72 | 4.35 | 9.07 | 0.27 | 9.15 | 0.35 |
| 600 | 7.16 | 3.27 | 7.22 | 3.33 | 8.87 | -0.83 | 8.92 | -0.78 |
| 500 | 6.72 | 1.96 | 6.77 | 2.01 | 8.63 | -1.98 | 8.67 | -1.93 |
| 400 | 6.31 | 0.32 | 6.36 | 0.37 | 8.34 | -3.23 | 8.38 | -3.19 |
| 300 | 5.91 | -1.59 | 5.95 | -1.55 | 8.01 | -4.62 | 8.03 | -4.60 |
| 200 | 5.48 | -3.72 | 5.51 | -3.69 | 7.57 | -6.01 | 7.60 | -5.98 |
| 100 | 4.93 | -4.90 | 4.96 | -4.87 | 6.95 | -5.36 | 6.97 | -5.34 |
| 32 | 4.16 | -3.19 | 4.18 | -3.17 | 5.98 | -3.32 | 6.00 | -3.30 |
| 8 | 3.27 | -1.03 | 3.28 | -1.02 | 4.62 | -1.28 | 4.63 | -1.27 |

CASE II

GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 698. 6.00HR | | 699. 6.00HR | | 704. 2.00HR | | 705. 2.00HR | |
|-------------------------|----------------|-------|----------------|-------|----------------|-------|----------------|-------|
| AIR TEMPERATURE (DEG C) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 18.72 | 2.92 | 18.65 | 2.85 | 16.58 | 2.13 | 16.55 | 2.10 |
| 900 | 17.84 | 1.99 | 17.79 | 1.94 | 16.25 | 1.85 | 16.24 | 1.84 |
| 800 | 17.31 | 1.41 | 17.26 | 1.36 | 15.97 | 1.59 | 15.97 | 1.59 |
| 700 | 16.91 | 0.96 | 16.87 | 0.92 | 15.79 | 1.44 | 15.77 | 1.42 |
| 600 | 16.55 | 0.55 | 16.52 | 0.52 | 15.58 | 1.27 | 15.57 | 1.26 |
| 500 | 16.24 | 0.19 | 16.21 | 0.16 | 15.41 | 1.13 | 15.41 | 1.13 |
| 400 | 15.90 | -0.20 | 15.90 | -0.20 | 15.21 | 1.31 | 15.21 | 1.31 |
| 300 | 15.57 | 1.57 | 15.56 | 1.56 | 15.02 | 1.26 | 15.02 | 1.26 |
| 200 | 15.15 | 1.26 | 15.14 | 1.25 | 14.77 | 0.77 | 14.77 | 0.77 |
| 100 | 14.56 | 1.00 | 14.59 | 1.03 | 14.43 | 1.38 | 14.42 | 1.37 |
| 32 | 13.65 | 0.75 | 13.69 | 0.79 | 13.87 | 1.07 | 13.87 | 1.07 |
| 8 | 12.72 | 0.22 | 12.80 | 0.30 | 13.36 | 0.51 | 13.36 | 0.51 |
| 2 | 10.98 | -1.40 | 11.09 | -1.29 | 12.18 | -0.69 | 12.18 | -0.69 |
| 0 | 9.23 | XXXX | 9.37 | XXXX | 10.99 | XXXX | 10.99 | XXXX |

| VAPOR PRESSURE (MB) | | | | | | | | |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 8.99 | 5.69 | 9.02 | 5.72 | 7.32 | 2.76 | 7.35 | 2.79 |
| 900 | 9.23 | 5.83 | 9.26 | 5.86 | 8.11 | 3.22 | 8.13 | 3.24 |
| 800 | 9.42 | 4.93 | 9.44 | 4.95 | 8.52 | 2.65 | 8.54 | 2.67 |
| 700 | 9.60 | 3.92 | 9.62 | 3.94 | 8.83 | 1.91 | 8.83 | 1.91 |
| 600 | 9.74 | 2.87 | 9.75 | 2.88 | 9.04 | 1.06 | 9.05 | 1.07 |
| 500 | 9.88 | 1.83 | 9.92 | 1.87 | 9.25 | 0.34 | 9.27 | 0.36 |
| 400 | 10.02 | 0.76 | 10.04 | 0.78 | 9.43 | -0.29 | 9.44 | -0.28 |
| 300 | 10.19 | -0.26 | 10.19 | -0.26 | 9.64 | -0.87 | 9.65 | -0.86 |
| 200 | 10.33 | -1.32 | 10.35 | -1.30 | 9.81 | -1.51 | 9.81 | -1.51 |
| 100 | 10.49 | -1.25 | 10.49 | -1.25 | 10.00 | -1.36 | 10.00 | -1.36 |
| 32 | 10.60 | -0.70 | 10.62 | -0.68 | 10.15 | -0.92 | 10.16 | -0.91 |
| 8 | 10.72 | -0.41 | 10.73 | -0.40 | 10.29 | -0.66 | 10.29 | -0.66 |
| 2 | 10.86 | -0.24 | 10.89 | -0.21 | 10.50 | -0.43 | 10.50 | -0.43 |
| 0 | 11.01 | XXXX | 11.05 | XXXX | 10.71 | XXXX | 10.72 | XXXX |

CASE II GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 698. | 699. | 704. | 705. |
| INTERVAL | 6.00HR | 6.00HR | 2.00HR | 2.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 9.82 | 0.19 | 9.85 | 0.22 | 10.07 | 0.42 | 10.06 | 0.41 |
| -0.125 | 9.51 | 0.08 | 9.50 | 0.07 | 9.22 | -0.00 | 9.22 | -0.00 |
| -0.250 | 9.59 | -0.07 | 9.59 | -0.07 | 9.47 | -0.03 | 9.47 | -0.03 |
| -0.500 | 10.78 | 0.01 | 10.77 | -0.00 | 10.79 | -0.01 | 10.80 | -0.00 |
| -1.000 | 12.44 | 0.00 | 12.45 | 0.01 | 12.44 | 0.00 | 12.44 | 0.00 |
| -2.000 | 15.77 | -0.04 | 15.78 | -0.03 | 15.78 | -0.03 | 15.79 | -0.02 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|-------|------|-------|------|------|------|------|
| 8 | 4.06 | -0.68 | 4.22 | -0.52 | 8.18 | 1.74 | 8.15 | 1.71 |
| 2 | 2.03 | -0.72 | 2.11 | -0.64 | 4.11 | 1.58 | 4.10 | 1.57 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|-------|-------|------|
| S(D) | 0.00 | 0.00 | 0.00 | 0.00 | -0.00 | -0.00 | 0.00 | 0.00 |
| R(N) | -1.60 | XXXX | -1.62 | XXXX | -1.77 | XXXX | -1.77 | XXXX |
| Q(C,0) | -1.70 | XXXX | -1.76 | XXXX | -3.01 | XXXX | -3.01 | XXXX |
| Q(E,0) | 0.25 | XXXX | 0.28 | XXXX | 0.96 | XXXX | 0.96 | XXXX |
| Q(S,0) | -0.16 | XXXX | -0.13 | XXXX | 0.27 | XXXX | 0.27 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|-------|------|-------|------|
| TAU | 5.80 | XXXX | 6.38 | XXXX | 30.82 | XXXX | 30.64 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 2.90 | XXXX | 2.60 | XXXX | 1.10 | XXXX | 1.20 | XXXX |

CASE II

GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 15619 | 15619 | 15614 | 15614 |
| TAPE NO. | 706. | 707. | 708. | 709. |
| INTERVAL | 2.00HR | 2.00HR | 2.00HR | 2.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 2.90 | 0.00 | 2.89 | -0.01 | 2.89 | -0.01 | 2.89 | -0.01 |
| 1000 | 10.18 | -0.67 | 9.35 | -1.50 | 8.66 | -2.14 | 8.08 | -2.77 |
| 900 | 13.01 | 1.37 | 12.78 | 1.14 | 12.59 | 0.95 | 12.42 | 0.78 |
| 800 | 13.15 | 0.75 | 13.04 | 0.64 | 12.95 | 0.55 | 12.88 | 0.48 |
| 700 | 12.93 | -0.27 | 12.87 | -0.33 | 12.81 | -0.39 | 12.77 | -0.43 |
| 600 | 12.61 | -1.37 | 12.57 | -1.41 | 12.52 | -1.46 | 12.50 | -1.48 |
| 500 | 12.22 | -2.52 | 12.19 | -2.55 | 12.17 | -2.57 | 12.15 | -2.59 |
| 400 | 11.79 | -3.26 | 11.77 | -3.28 | 11.74 | -3.31 | 11.73 | -3.32 |
| 300 | 11.28 | -1.52 | 11.25 | -1.55 | 11.24 | -1.56 | 11.24 | -1.56 |
| 200 | 10.63 | 0.35 | 10.62 | 0.34 | 10.60 | 0.32 | 10.60 | 0.32 |
| 100 | 9.65 | 2.50 | 9.64 | 2.49 | 9.63 | 2.48 | 9.63 | 2.48 |
| 32 | 8.22 | 4.22 | 8.21 | 4.21 | 8.20 | 4.20 | 8.20 | 4.20 |
| 8 | 6.58 | 4.53 | 6.58 | 4.53 | 6.57 | 4.52 | 6.57 | 4.52 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 10.31 | -0.01 | 10.31 | -0.01 | 10.31 | -0.01 | 10.31 | -0.01 |
| 1000 | 10.20 | 4.10 | 10.44 | 4.34 | 10.61 | 4.51 | 10.73 | 4.63 |
| 900 | 9.79 | 2.79 | 9.90 | 2.90 | 9.99 | 2.99 | 10.06 | 3.06 |
| 800 | 9.52 | 1.62 | 9.59 | 1.69 | 9.65 | 1.75 | 9.69 | 1.79 |
| 700 | 9.26 | 0.46 | 9.30 | 0.50 | 9.34 | 0.54 | 9.37 | 0.57 |
| 600 | 9.00 | -0.70 | 9.03 | -0.67 | 9.06 | -0.64 | 9.08 | -0.62 |
| 500 | 8.72 | -1.88 | 8.74 | -1.86 | 8.77 | -1.83 | 8.79 | -1.81 |
| 400 | 8.41 | -3.16 | 8.43 | -3.14 | 8.45 | -3.12 | 8.46 | -3.11 |
| 300 | 8.06 | -4.57 | 8.08 | -4.55 | 8.10 | -4.53 | 8.10 | -4.53 |
| 200 | 7.63 | -5.95 | 7.64 | -5.94 | 7.65 | -5.93 | 7.66 | -5.92 |
| 100 | 6.99 | -5.32 | 6.99 | -5.32 | 7.01 | -5.30 | 7.01 | -5.30 |
| 32 | 6.01 | -3.29 | 6.02 | -3.28 | 6.03 | -3.27 | 6.03 | -3.27 |
| 8 | 4.84 | -1.26 | 4.84 | -1.26 | 4.85 | -1.25 | 4.85 | -1.25 |

CASE II GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 706. 2.00HR | | 707. 2.00HR | | 708. 2.00HR | | 709. 2.00HR | |
|-------------------------|----------------|-------|----------------|-------|----------------|-------|----------------|-------|
| AIR TEMPERATURE (DEG C) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 16.51 | 2.06 | 16.49 | 2.04 | 16.47 | 2.02 | 16.45 | 2.00 |
| 900 | 16.21 | 1.81 | 16.19 | 1.79 | 16.19 | 1.79 | 16.17 | 1.77 |
| 800 | 15.95 | 1.57 | 15.93 | 1.55 | 15.93 | 1.55 | 15.92 | 1.54 |
| 700 | 15.76 | 1.41 | 15.76 | 1.41 | 15.75 | 1.40 | 15.74 | 1.39 |
| 600 | 15.56 | 1.25 | 15.56 | 1.25 | 15.56 | 1.25 | 15.56 | 1.25 |
| 500 | 15.30 | 1.02 | 15.40 | 1.12 | 15.39 | 1.11 | 15.39 | 1.11 |
| 400 | 15.21 | 1.31 | 15.20 | 1.30 | 15.19 | 1.29 | 15.19 | 1.29 |
| 300 | 15.01 | 1.25 | 15.02 | 1.26 | 15.02 | 1.26 | 15.02 | 1.26 |
| 200 | 14.76 | 0.76 | 14.77 | 0.77 | 14.76 | 0.76 | 14.76 | 0.76 |
| 100 | 14.43 | 1.38 | 14.43 | 1.38 | 14.43 | 1.38 | 14.42 | 1.37 |
| 32 | 13.86 | 1.06 | 13.87 | 1.07 | 13.87 | 1.07 | 13.86 | 1.06 |
| 8 | 13.36 | 0.51 | 13.36 | 0.51 | 13.36 | 0.51 | 13.36 | 0.51 |
| 2 | 12.18 | -0.69 | 12.18 | -0.69 | 12.18 | -0.69 | 12.18 | -0.69 |
| 0 | 10.98 | XXXX | 10.99 | XXXX | 10.99 | XXXX | 10.99 | XXXX |
| VAPOR PRESSURE (MB) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 7.43 | 2.87 | 7.45 | 2.89 | 7.47 | 2.91 | 7.48 | 2.92 |
| 900 | 8.19 | 3.30 | 8.10 | 3.21 | 8.21 | 3.32 | 8.22 | 3.33 |
| 800 | 8.56 | 2.69 | 8.57 | 2.70 | 8.59 | 2.72 | 8.61 | 2.74 |
| 700 | 8.85 | 1.93 | 8.86 | 1.94 | 8.87 | 1.95 | 8.89 | 1.97 |
| 600 | 9.07 | 1.09 | 9.08 | 1.10 | 9.08 | 1.10 | 9.08 | 1.10 |
| 500 | 9.27 | 0.36 | 9.28 | 0.37 | 9.29 | 0.38 | 9.29 | 0.38 |
| 400 | 9.45 | -0.27 | 9.46 | -0.26 | 9.46 | -0.26 | 9.47 | -0.25 |
| 300 | 9.65 | -0.86 | 9.66 | -0.85 | 9.66 | -0.85 | 9.66 | -0.85 |
| 200 | 9.82 | -1.50 | 9.83 | -1.49 | 9.83 | -1.49 | 9.84 | -1.48 |
| 100 | 10.00 | -1.36 | 10.00 | -1.36 | 10.03 | -1.33 | 10.04 | -1.32 |
| 32 | 10.16 | -0.91 | 10.16 | -0.91 | 10.17 | -0.90 | 10.17 | -0.90 |
| 8 | 10.30 | -0.65 | 10.29 | -0.66 | 10.31 | -0.64 | 10.31 | -0.64 |
| 2 | 10.51 | -0.42 | 10.51 | -0.42 | 10.52 | -0.41 | 10.52 | -0.41 |
| 0 | 10.73 | XXXX | 10.73 | XXXX | 10.73 | XXXX | 10.73 | XXXX |

CASE II GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| TAPE NO. | 706. | 707. | 708. | 709. |
|----------|--------|--------|--------|--------|
| INTERVAL | 2.00HR | 2.00HR | 2.00HR | 2.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 10.07 | 0.42 | 10.07 | 0.42 | 10.07 | 0.42 | 10.06 | 0.41 |
| -0.125 | 9.22 | -0.00 | 9.22 | -0.00 | 9.22 | -0.00 | 9.22 | -0.00 |
| -0.250 | 9.47 | -0.03 | 9.47 | -0.03 | 9.47 | -0.03 | 9.49 | -0.01 |
| -0.500 | 10.79 | -0.01 | 10.79 | -0.01 | 10.79 | -0.01 | 10.81 | 0.01 |
| -1.000 | 12.43 | -0.01 | 12.44 | 0.00 | 12.43 | -0.01 | 12.44 | 0.00 |
| -2.000 | 15.78 | -0.03 | 15.79 | -0.02 | 15.78 | -0.03 | 15.78 | -0.03 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 8.18 | 1.74 | 8.18 | 1.74 | 8.17 | 1.73 | 8.17 | 1.73 |
| 2 | 4.11 | 1.58 | 4.11 | 1.58 | 4.11 | 1.58 | 4.11 | 1.58 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| S(D) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| R(N) | -1.77 | XXXX | -1.77 | XXXX | -1.77 | XXXX | -1.77 | XXXX |
| Q(C,0) | -3.00 | XXXX | -3.01 | XXXX | -3.00 | XXXX | -3.00 | XXXX |
| Q(E,0) | 0.96 | XXXX | 0.96 | XXXX | 0.96 | XXXX | 0.96 | XXXX |
| Q(S,0) | 0.27 | XXXX | 0.27 | XXXX | 0.27 | XXXX | 0.27 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 30.72 | XXXX | 30.80 | XXXX | 30.70 | XXXX | 30.70 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 1.20 | XXXX | 1.10 | XXXX | 1.10 | XXXX | 1.20 | XXXX |

CASE II

GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 15609 | 15574 | 15604 | 20125 |
| TAPE NO. | 710. | 711. | 712. | 717. |
| INTERVAL | 2.00HR | 2.00HR | 2.00HR | 1.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 2.89 | -0.01 | 2.89 | -0.01 | 2.89 | -0.01 | 4.28 | -0.01 |
| 1000 | 7.60 | -3.25 | 7.18 | -3.67 | 6.53 | -4.32 | 14.24 | 2.06 |
| 900 | 12.28 | 0.64 | 12.16 | 0.52 | 11.95 | 0.31 | 15.11 | 2.19 |
| 800 | 12.80 | 0.40 | 12.74 | 0.34 | 12.63 | 0.23 | 15.03 | 1.34 |
| 700 | 12.73 | -0.47 | 12.69 | -0.51 | 12.63 | -0.57 | 14.70 | 0.25 |
| 600 | 12.47 | -1.51 | 12.45 | -1.53 | 12.40 | -1.58 | 14.26 | -0.99 |
| 500 | 12.13 | -2.61 | 12.11 | -2.63 | 12.07 | -2.67 | 13.77 | -2.32 |
| 400 | 11.71 | -3.34 | 11.70 | -3.35 | 11.68 | -3.37 | 13.23 | -3.06 |
| 300 | 11.22 | -1.58 | 11.21 | -1.59 | 11.19 | -1.61 | 12.60 | -1.08 |
| 200 | 10.58 | 0.30 | 10.57 | 0.29 | 10.56 | 0.28 | 11.83 | 1.63 |
| 100 | 9.61 | 2.46 | 9.60 | 2.45 | 9.59 | 2.44 | 10.70 | 4.10 |
| 32 | 8.20 | 4.20 | 8.18 | 4.18 | 8.18 | 4.18 | 9.10 | 5.27 |
| 8 | 6.57 | 4.52 | 6.55 | 4.50 | 6.55 | 4.50 | 7.31 | 5.26 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 10.32 | 0.00 | 10.31 | -0.01 | 10.31 | -0.01 | 10.20 | -0.01 |
| 1000 | 10.81 | 4.71 | 10.87 | 4.77 | 10.92 | 4.82 | 9.04 | 2.29 |
| 900 | 10.13 | 3.13 | 10.17 | 3.17 | 10.25 | 3.25 | 10.70 | 2.71 |
| 800 | 9.73 | 1.83 | 9.76 | 1.86 | 9.81 | 1.91 | 11.34 | 2.13 |
| 700 | 9.40 | 0.60 | 9.42 | 0.62 | 9.46 | 0.66 | 11.60 | 1.14 |
| 600 | 9.11 | -0.59 | 9.13 | -0.57 | 9.15 | -0.55 | 11.68 | -0.02 |
| 500 | 8.80 | -1.80 | 8.82 | -1.78 | 8.84 | -1.76 | 11.63 | -1.32 |
| 400 | 8.48 | -3.09 | 8.49 | -3.08 | 8.51 | -3.06 | 11.45 | -2.90 |
| 300 | 8.11 | -4.52 | 8.13 | -4.51 | 8.14 | -4.49 | 11.16 | -3.73 |
| 200 | 7.67 | -5.91 | 7.68 | -5.90 | 7.68 | -5.90 | 10.70 | -3.75 |
| 100 | 7.02 | -5.29 | 7.03 | -5.28 | 7.04 | -5.27 | 9.91 | -3.09 |
| 32 | 6.03 | -3.27 | 6.04 | -3.26 | 6.05 | -3.25 | 8.60 | -0.70 |
| 8 | 4.85 | -1.25 | 4.86 | -1.24 | 4.86 | -1.24 | 6.95 | 0.95 |

CASE 11 GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 710. 2.00HR | 711. 2.00HR | 712. 2.00HR | 717. 1.00HR |
|----------------------|----------------|----------------|----------------|----------------|
|----------------------|----------------|----------------|----------------|----------------|

AIR TEMPERATURE (DEG C)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 16.44 | 1.99 | 16.43 | 1.98 | 16.40 | 1.95 | 15.66 | 1.15 |
| 900 | 16.16 | 1.76 | 16.16 | 1.76 | 16.14 | 1.74 | 15.69 | 1.06 |
| 800 | 15.92 | 1.54 | 15.91 | 1.53 | 15.91 | 1.53 | 15.57 | 0.83 |
| 700 | 15.73 | 1.38 | 15.70 | 1.35 | 15.73 | 1.38 | 15.48 | 0.63 |
| 600 | 15.56 | 1.25 | 15.55 | 1.24 | 15.54 | 1.23 | 15.34 | 0.39 |
| 500 | 15.39 | 1.11 | 15.39 | 1.11 | 15.39 | 1.11 | 15.22 | 0.14 |
| 400 | 15.20 | 1.30 | 15.19 | 1.29 | 15.19 | 1.29 | 15.06 | -0.12 |
| 300 | 15.00 | 1.24 | 15.02 | 1.26 | 15.01 | 1.25 | 14.91 | 0.28 |
| 200 | 14.76 | 0.76 | 14.76 | 0.76 | 14.76 | 0.76 | 14.69 | 0.20 |
| 100 | 14.42 | 1.37 | 14.42 | 1.37 | 14.42 | 1.37 | 14.40 | 1.09 |
| 32 | 13.87 | 1.07 | 13.86 | 1.06 | 13.87 | 1.07 | 13.92 | 0.72 |
| 8 | 13.36 | 0.51 | 13.35 | 0.50 | 13.36 | 0.51 | 13.49 | 0.21 |
| 2 | 12.18 | -0.69 | 12.17 | -0.70 | 12.18 | -0.69 | 12.46 | -0.84 |
| 0 | 10.99 | XXXX | 10.98 | XXXX | 10.98 | XXXX | 11.40 | XXXX |

VAPOR PRESSURE (MB)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 7.50 | 2.94 | 7.51 | 2.95 | 7.53 | 2.97 | 6.36 | 1.48 |
| 900 | 8.23 | 2.34 | 8.24 | 3.35 | 8.25 | 3.36 | 7.54 | 2.28 |
| 800 | 8.61 | 2.74 | 8.61 | 2.74 | 8.62 | 2.75 | 8.16 | 1.94 |
| 700 | 8.90 | 1.98 | 8.91 | 1.99 | 8.91 | 1.99 | 8.62 | 1.39 |
| 600 | 9.09 | 1.11 | 9.09 | 1.11 | 9.10 | 1.12 | 8.95 | 0.70 |
| 500 | 9.29 | 0.38 | 9.31 | 0.40 | 9.31 | 0.40 | 9.23 | 0.10 |
| 400 | 9.47 | -0.25 | 9.47 | -0.25 | 9.47 | -0.25 | 9.47 | -0.37 |
| 300 | 9.67 | -0.84 | 9.66 | -0.85 | 9.68 | -0.83 | 9.74 | -0.78 |
| 200 | 9.83 | -1.49 | 9.83 | -1.49 | 9.84 | -1.48 | 9.94 | -1.29 |
| 100 | 10.04 | -1.32 | 10.03 | -1.33 | 10.04 | -1.32 | 10.14 | -1.13 |
| 32 | 10.17 | -0.90 | 10.18 | -0.89 | 10.17 | -0.90 | 10.32 | -0.69 |
| 8 | 10.31 | -0.64 | 10.31 | -0.64 | 10.31 | -0.64 | 10.45 | -0.45 |
| 2 | 10.52 | -0.41 | 10.52 | -0.41 | 10.52 | -0.41 | 10.63 | -0.26 |
| 0 | 10.74 | XXXX | 10.73 | XXXX | 10.74 | XXXX | 10.82 | XXXX |

CASE II GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 710. | 711. | 712. | 717. |
| INTERVAL | 2.00HR | 2.00HR | 2.00HR | 1.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 10.06 | 0.41 | 10.06 | 0.41 | 10.07 | 0.42 | 9.96 | 0.25 |
| -0.125 | 9.22 | -0.00 | 9.22 | -0.00 | 9.22 | -0.00 | 9.12 | 0.00 |
| -0.250 | 9.47 | -0.03 | 9.47 | -0.03 | 9.47 | -0.03 | 9.44 | -0.02 |
| -0.500 | 10.81 | 0.01 | 10.80 | -0.00 | 10.70 | -0.10 | 10.90 | -0.02 |
| -1.000 | 12.44 | 0.00 | 12.44 | 0.00 | 12.44 | 0.00 | 12.44 | 0.00 |
| -2.000 | 15.77 | -0.04 | 15.78 | -0.03 | 15.78 | -0.03 | 15.78 | -0.03 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|-------|------|
| 8 | 8.17 | 1.73 | 8.15 | 1.71 | 8.17 | 1.73 | 10.09 | 3.75 |
| 2 | 4.11 | 1.58 | 4.10 | 1.57 | 4.11 | 1.58 | 5.10 | 4.56 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| S(D) | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 |
| R(N) | -1.77 | XXXX | -1.77 | XXXX | -1.77 | XXXX | -1.81 | XXXX |
| Q(C,0) | -3.00 | XXXX | -2.99 | XXXX | -2.95 | XXXX | -3.34 | XXXX |
| Q(E,0) | 0.96 | XXXX | 0.96 | XXXX | 0.96 | XXXX | 1.08 | XXXX |
| Q(S,0) | 0.27 | XXXX | 0.27 | XXXX | 0.27 | XXXX | 0.44 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 30.72 | XXXX | 30.58 | XXXX | 30.62 | XXXX | 48.08 | XX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 1.10 | XXXX | 1.10 | XXXX | 1.10 | XXXX | 0.50 | XXXX |

CASE II GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 20154 | 20119 | 20125 | 20134 |
| TAPE NO. | 718. | 719. | 720. | 721. |
| INTERVAL | 1.00HR | 1.00HR | 1.00HR | 1.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 4.28 | -0.01 | 4.28 | -0.01 | 4.28 | -0.01 | 4.28 | -0.01 |
| 1000 | 13.32 | 1.14 | 11.80 | -0.38 | 11.19 | -0.99 | 10.64 | -1.54 |
| 900 | 14.94 | 2.02 | 14.63 | 1.71 | 14.50 | 1.58 | 14.38 | 1.46 |
| 800 | 14.96 | 1.27 | 14.85 | 1.16 | 14.80 | 1.11 | 14.75 | 1.06 |
| 700 | 14.67 | 0.22 | 14.61 | 0.16 | 14.59 | 0.14 | 14.57 | 0.12 |
| 600 | 14.25 | -1.00 | 14.22 | -1.03 | 14.21 | -1.04 | 14.19 | -1.06 |
| 500 | 13.76 | -2.32 | 13.70 | -2.39 | 13.75 | -2.33 | 13.73 | -2.36 |
| 400 | 13.22 | -3.07 | 13.21 | -3.07 | 13.21 | -3.08 | 13.20 | -3.08 |
| 300 | 12.59 | -1.09 | 12.59 | -1.09 | 12.59 | -1.09 | 12.58 | -1.10 |
| 200 | 11.82 | 1.62 | 11.82 | 1.62 | 11.82 | 1.62 | 11.82 | 1.62 |
| 100 | 10.70 | 4.10 | 10.69 | 4.09 | 10.70 | 4.10 | 10.69 | 4.09 |
| 32 | 9.10 | 5.27 | 9.10 | 5.27 | 9.10 | 5.27 | 9.10 | 5.27 |
| 8 | 7.30 | 5.25 | 7.30 | 5.25 | 7.30 | 5.25 | 7.30 | 5.25 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 10.20 | -0.01 | 10.20 | -0.01 | 10.19 | -0.02 | 10.20 | -0.01 |
| 1000 | 9.39 | 2.64 | 9.92 | 3.17 | 10.11 | 3.36 | 10.28 | 3.53 |
| 900 | 10.79 | 2.80 | 10.93 | 2.94 | 10.99 | 3.00 | 11.04 | 3.05 |
| 800 | 11.38 | 2.16 | 11.45 | 2.24 | 11.46 | 2.25 | 11.49 | 2.28 |
| 700 | 11.63 | 1.16 | 11.65 | 1.19 | 11.66 | 1.20 | 11.68 | 1.22 |
| 600 | 11.69 | -0.01 | 11.70 | 0.00 | 11.71 | 0.01 | 11.72 | 0.02 |
| 500 | 11.63 | -1.32 | 11.63 | -1.32 | 11.64 | -1.31 | 11.65 | -1.30 |
| 400 | 11.45 | -2.80 | 11.45 | -2.80 | 11.45 | -2.80 | 11.45 | -2.80 |
| 300 | 11.15 | -3.74 | 11.16 | -3.73 | 11.16 | -3.73 | 11.17 | -3.72 |
| 200 | 10.69 | -3.76 | 10.69 | -3.76 | 10.70 | -3.75 | 10.70 | -3.75 |
| 100 | 9.91 | -3.09 | 9.92 | -3.08 | 9.92 | -3.08 | 9.92 | -3.08 |
| 32 | 8.59 | -0.71 | 8.60 | -0.70 | 8.60 | -0.70 | 8.60 | -0.70 |
| 8 | 6.95 | 0.95 | 6.95 | 0.95 | 6.95 | 0.95 | 6.95 | 0.95 |

CASE II

GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 718. 1.00HR | | 719. 1.00HR | | 720. 1.00HR | | 721. 1.00HR | |
|-------------------------|----------------|-------|----------------|-------|----------------|-------|----------------|-------|
| AIR TEMPERATURE (DEG C) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 15.65 | 1.14 | 15.64 | 1.13 | 15.64 | 1.13 | 15.63 | 1.12 |
| 900 | 15.69 | 1.06 | 15.67 | 1.04 | 15.67 | 1.04 | 15.67 | 1.04 |
| 800 | 15.57 | 0.83 | 15.57 | 0.83 | 15.57 | 0.83 | 15.56 | 0.82 |
| 700 | 15.47 | 0.62 | 15.48 | 0.63 | 15.46 | 0.61 | 15.46 | 0.61 |
| 600 | 15.35 | 0.40 | 15.34 | 0.39 | 15.34 | 0.39 | 15.34 | 0.39 |
| 500 | 15.22 | 0.14 | 15.21 | 0.13 | 15.22 | 0.14 | 15.22 | 0.14 |
| 400 | 15.06 | -0.02 | 15.06 | -0.02 | 15.06 | -0.02 | 15.06 | -0.02 |
| 300 | 14.91 | 0.28 | 14.91 | 0.28 | 14.91 | 0.28 | 14.91 | 0.28 |
| 200 | 14.69 | 0.20 | 14.71 | 0.22 | 14.70 | 0.21 | 14.69 | 0.20 |
| 100 | 14.41 | 1.10 | 14.40 | 1.09 | 14.41 | 1.10 | 14.41 | 1.10 |
| 32 | 13.91 | 0.71 | 13.92 | 0.72 | 13.92 | 0.72 | 13.91 | 0.71 |
| 8 | 13.49 | 0.21 | 13.49 | 0.21 | 13.49 | 0.21 | 13.49 | 0.21 |
| 2 | 12.46 | -0.84 | 12.45 | -0.85 | 12.46 | -0.84 | 12.45 | -0.85 |
| 0 | 11.40 | XXXX | 11.39 | XXXX | 11.40 | XXXX | 11.39 | XXXX |
| VAPOR PRESSURE (MB) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 6.45 | 1.57 | 6.40 | 1.52 | 6.42 | 1.54 | 6.43 | 1.55 |
| 900 | 7.59 | 2.33 | 7.59 | 2.33 | 7.58 | 2.32 | 7.59 | 2.33 |
| 800 | 8.21 | 1.99 | 8.18 | 1.96 | 8.19 | 1.97 | 8.19 | 1.97 |
| 700 | 8.63 | 1.40 | 8.63 | 1.40 | 8.64 | 1.41 | 8.63 | 1.40 |
| 600 | 8.96 | 0.71 | 8.96 | 0.71 | 8.95 | 0.70 | 8.95 | 0.70 |
| 500 | 9.25 | 0.12 | 9.24 | 0.11 | 9.24 | 0.11 | 9.24 | 0.11 |
| 400 | 9.48 | -0.36 | 9.48 | -0.36 | 9.48 | -0.35 | 9.48 | -0.36 |
| 300 | 9.73 | -0.79 | 9.73 | -0.79 | 9.73 | -0.79 | 9.74 | -0.78 |
| 200 | 9.94 | -1.29 | 9.94 | -1.29 | 9.94 | -1.29 | 9.94 | -1.29 |
| 100 | 10.19 | -1.08 | 10.17 | -1.10 | 10.19 | -1.08 | 10.17 | -1.10 |
| 32 | 10.33 | -0.68 | 10.32 | -0.69 | 10.32 | -0.69 | 10.32 | -0.69 |
| 8 | 10.45 | -0.45 | 10.45 | -0.45 | 10.45 | -0.45 | 10.45 | -0.45 |
| 2 | 10.64 | -0.25 | 10.63 | -0.26 | 10.63 | -0.26 | 10.64 | -0.25 |
| 0 | 10.83 | XXXX | 10.82 | XXXX | 10.82 | XXXX | 10.83 | XXXX |

CASE II GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 718. | 719. | 720. | 721. |
| INTERVAL | 1.00HR | 1.00HR | 1.00HR | 1.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 9.85 | 0.24 | 9.86 | 0.25 | 9.86 | 0.25 | 9.86 | 0.25 |
| -0.125 | 9.12 | 0.00 | 9.13 | 0.01 | 9.13 | 0.01 | 9.12 | 0.00 |
| -0.250 | 9.44 | -0.02 | 9.44 | -0.02 | 9.44 | -0.02 | 9.45 | -0.01 |
| -0.500 | 10.80 | -0.02 | 10.81 | -0.01 | 10.81 | -0.01 | 10.80 | -0.02 |
| -1.000 | 12.44 | 0.00 | 12.44 | 0.00 | 12.43 | -0.01 | 12.44 | 0.00 |
| -2.000 | 15.78 | -0.03 | 15.78 | -0.03 | 15.77 | -0.04 | 15.78 | -0.03 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|------|-------|------|-------|------|-------|------|
| 8 | 10.08 | 3.74 | 10.08 | 3.74 | 10.09 | 3.75 | 10.08 | 3.74 |
| 2 | 5.10 | 4.56 | 5.10 | 4.56 | 5.10 | 4.56 | 5.10 | 4.56 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|-------|
| S(D) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.00 | -0.00 |
| R(M) | -1.82 | XXXX | -1.81 | XXXX | -1.81 | XXXX | -1.81 | XXXX |
| Q(C,0) | -3.35 | XXXX | -3.34 | XXXX | -3.35 | XXXX | -3.33 | XXXX |
| Q(E,0) | 1.08 | XXXX | 1.08 | XXXX | 1.08 | XXXX | 1.08 | XXXX |
| Q(S,0) | 0.44 | XXXX | 0.44 | XXXX | 0.44 | XXXX | 0.44 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 48.08 | XXXX | 48.08 | XXXX | 48.18 | XXXX | 48.08 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 0.60 | XXXX | 0.60 | XXXX | 0.60 | XXXX | 0.50 | XXXX |

CASE II

GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 20125 | 20125 | 20119 | 20114 |
| TAPE NO. | 722. | 723. | 724. | 725. |
| INTERVAL | 1.00HR | 1.00HR | 1.00HR | 1.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEU | 4.28 | -0.01 | 4.28 | -0.01 | 4.28 | -0.01 | 4.28 | -0.01 |
| 1000 | 10.15 | -2.03 | 9.72 | -2.46 | 9.33 | -2.85 | 8.68 | -3.50 |
| 900 | 14.27 | 1.35 | 14.17 | 1.25 | 14.08 | 1.16 | 13.93 | 1.01 |
| 800 | 14.71 | 1.02 | 14.67 | 0.98 | 14.64 | 0.95 | 14.57 | 0.88 |
| 700 | 14.55 | 0.10 | 14.53 | 0.08 | 14.51 | 0.06 | 14.48 | 0.03 |
| 600 | 14.18 | -1.07 | 14.17 | -1.08 | 14.16 | -1.09 | 14.14 | -1.11 |
| 500 | 13.73 | -2.36 | 13.72 | -2.36 | 13.71 | -2.38 | 13.71 | -2.38 |
| 400 | 13.20 | -3.08 | 13.19 | -3.09 | 13.19 | -3.09 | 13.18 | -3.10 |
| 300 | 12.58 | -1.10 | 12.58 | -1.10 | 12.58 | -1.10 | 12.57 | -1.11 |
| 200 | 11.81 | 1.61 | 11.81 | 1.61 | 11.81 | 1.61 | 11.81 | 1.61 |
| 100 | 10.69 | 4.09 | 10.69 | 4.09 | 10.69 | 4.09 | 10.69 | 4.09 |
| 32 | 9.10 | 5.27 | 9.10 | 5.27 | 9.10 | 5.27 | 9.09 | 5.26 |
| 8 | 7.30 | 5.25 | 7.30 | 5.25 | 7.30 | 5.25 | 7.30 | 5.25 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEU | 10.20 | -0.01 | 10.20 | -0.01 | 10.20 | -0.01 | 10.20 | -0.01 |
| 1000 | 10.42 | 3.67 | 10.53 | 3.78 | 10.63 | 3.88 | 10.76 | 4.01 |
| 900 | 11.09 | 3.10 | 11.13 | 3.14 | 11.17 | 3.18 | 11.23 | 3.24 |
| 800 | 11.51 | 2.30 | 11.53 | 2.32 | 11.55 | 2.34 | 11.58 | 2.37 |
| 700 | 11.69 | 1.23 | 11.70 | 1.24 | 11.71 | 1.25 | 11.73 | 1.27 |
| 600 | 11.73 | 0.03 | 11.73 | 0.03 | 11.74 | 0.04 | 11.75 | 0.05 |
| 500 | 11.65 | -1.30 | 11.65 | -1.30 | 11.66 | -1.29 | 11.66 | -1.29 |
| 400 | 11.46 | -2.79 | 11.46 | -2.79 | 11.46 | -2.79 | 11.47 | -2.78 |
| 300 | 11.16 | -3.73 | 11.17 | -3.72 | 11.17 | -3.72 | 11.17 | -3.72 |
| 200 | 10.70 | -3.75 | 10.70 | -3.75 | 10.70 | -3.75 | 10.70 | -3.75 |
| 100 | 9.92 | -3.08 | 9.92 | -3.08 | 9.92 | -3.08 | 9.92 | -3.08 |
| 32 | 8.60 | -0.70 | 8.60 | -0.70 | 8.60 | -0.70 | 8.60 | -0.70 |
| 8 | 6.95 | 0.95 | 6.95 | 0.95 | 6.95 | 0.95 | 6.95 | 0.95 |

CASE II GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 722. 1.00HR | | 723. 1.00HR | | 724. 1.00HR | | 725. 1.00HR | |
|-------------------------|----------------|-------|----------------|-------|----------------|-------|----------------|-------|
| AIR TEMPERATURE (DEG C) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 15.62 | 1.11 | 15.61 | 1.10 | 15.61 | 1.10 | 15.61 | 1.10 |
| 900 | 15.66 | 1.03 | 15.66 | 1.03 | 15.65 | 1.02 | 15.65 | 1.02 |
| 800 | 15.56 | 0.82 | 15.55 | 0.81 | 15.55 | 0.81 | 15.54 | 0.80 |
| 700 | 15.46 | 0.61 | 15.46 | 0.61 | 15.46 | 0.61 | 15.46 | 0.61 |
| 600 | 15.33 | 0.38 | 15.34 | 0.39 | 15.33 | 0.38 | 15.33 | 0.38 |
| 500 | 15.21 | 0.13 | 15.21 | 0.13 | 15.21 | 0.13 | 15.21 | 0.13 |
| 400 | 15.06 | -0.02 | 15.06 | -0.02 | 15.06 | -0.02 | 15.05 | -0.03 |
| 300 | 14.91 | 0.28 | 14.91 | 0.28 | 14.91 | 0.28 | 14.91 | 0.28 |
| 200 | 14.69 | 0.20 | 14.70 | 0.21 | 14.70 | 0.21 | 14.70 | 0.21 |
| 100 | 14.40 | 1.09 | 14.40 | 1.09 | 14.40 | 1.09 | 14.39 | 1.08 |
| 32 | 13.91 | 0.71 | 13.91 | 0.71 | 13.92 | 0.72 | 13.91 | 0.71 |
| 8 | 13.49 | 0.21 | 13.49 | 0.21 | 13.49 | 0.21 | 13.49 | 0.21 |
| 2 | 12.46 | -0.84 | 12.45 | -0.85 | 12.45 | -0.85 | 12.45 | -0.85 |
| 0 | 11.40 | XXXX | 11.39 | XXXX | 11.39 | XXXX | 11.39 | XXXX |
| VAPOR PRESSURE (MB) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 6.44 | 1.56 | 6.44 | 1.56 | 6.45 | 1.57 | 6.46 | 1.58 |
| 900 | 7.59 | 2.33 | 7.59 | 2.33 | 7.59 | 2.33 | 7.61 | 2.35 |
| 800 | 8.20 | 1.98 | 8.21 | 1.99 | 8.21 | 1.99 | 8.21 | 1.99 |
| 700 | 8.63 | 1.40 | 8.64 | 1.41 | 8.64 | 1.41 | 8.65 | 1.42 |
| 600 | 8.96 | 0.71 | 8.96 | 0.71 | 8.96 | 0.71 | 8.96 | 0.71 |
| 500 | 9.24 | 0.11 | 9.24 | 0.11 | 9.25 | 0.12 | 9.25 | 0.12 |
| 400 | 9.48 | -0.36 | 9.48 | -0.36 | 9.48 | -0.36 | 9.47 | -0.37 |
| 300 | 9.73 | -0.79 | 9.74 | -0.78 | 9.74 | -0.78 | 9.74 | -0.78 |
| 200 | 9.94 | -1.29 | 9.95 | -1.28 | 9.94 | -1.29 | 9.94 | -1.29 |
| 100 | 10.19 | -1.08 | 10.19 | -1.08 | 10.16 | -1.11 | 10.16 | -1.11 |
| 32 | 10.32 | -0.69 | 10.33 | -0.68 | 10.33 | -0.68 | 10.33 | -0.68 |
| 8 | 10.45 | -0.45 | 10.46 | -0.44 | 10.45 | -0.45 | 10.45 | -0.45 |
| 2 | 10.64 | -0.25 | 10.65 | -0.24 | 10.64 | -0.25 | 10.64 | -0.25 |
| 0 | 10.83 | XXXX | 10.84 | XXXX | 10.83 | XXXX | 10.83 | XXXX |

CASE II

GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 722. | 723. | 724. | 725. |
| INTERVAL | 1.00HR | 1.00HR | 1.00HR | 1.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 9.86 | 0.25 | 9.86 | 0.25 | 9.86 | 0.25 | 9.86 | 0.25 |
| -0.125 | 9.12 | 0.00 | 9.13 | 0.01 | 9.13 | 0.01 | 9.12 | 0.00 |
| -0.250 | 9.45 | -0.01 | 9.45 | -0.01 | 9.44 | -0.02 | 9.44 | -0.02 |
| -0.500 | 10.81 | -0.01 | 10.80 | -0.02 | 10.79 | -0.03 | 10.79 | -0.03 |
| -1.000 | 12.43 | -0.01 | 12.44 | 0.00 | 12.44 | 0.00 | 12.44 | 0.00 |
| -2.000 | 15.77 | -0.04 | 15.78 | -0.03 | 15.78 | -0.03 | 15.77 | -0.04 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|------|-------|------|-------|------|-------|------|
| 8 | 10.09 | 3.75 | 10.09 | 3.75 | 10.08 | 3.74 | 10.08 | 3.74 |
| 2 | 5.10 | 4.56 | 5.10 | 4.56 | 5.10 | 4.56 | 5.10 | 4.56 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|-------|-------|------|-------|-------|
| S(D) | 0.00 | 0.00 | -0.00 | -0.00 | 0.00 | 0.00 | -0.00 | -0.00 |
| R(N) | -1.80 | XXXX | -1.81 | XXXX | -1.81 | XXXX | -1.81 | XXXX |
| Q(C,0) | -3.34 | XXXX | -3.30 | XXXX | -3.34 | XXXX | -3.34 | XXXX |
| Q(E,0) | 1.08 | XXXX | 1.07 | XXXX | 1.08 | XXXX | 1.07 | XXXX |
| Q(S,0) | 0.44 | XXXX | 0.44 | XXXX | 0.44 | XXXX | 0.44 | XXXX |

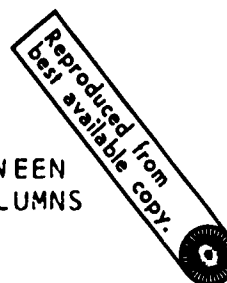
SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 48.08 | XXXX | 48.08 | XXXX | 48.08 | XXXX | 48.06 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 0.60 | XXXX | 0.50 | XXXX | 0.60 | XXXX | 0.60 | XXXX |

ROOT MEAN SQUARES OF THE DIFFERENCES BETWEEN
THE PREDICTED AND OBSERVED ATMOSPHERIC COLUMNS



CASE II

12.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 7.32 | 7.16 | 17.56 | 6.39 | 12.21 |
| PERSIST DIFF | | 7.02 | 6.98 | 3.31 | 2.99 | 1.59 |
| GPAC DIFF | 678. | 1.62 | 9.10 | 4.29 | 7.32 | 0.94 |
| GPAC DIFF | 679. | 1.61 | 8.84 | 4.30 | 7.40 | 0.96 |
| GPAC DIFF | 680. | 1.56 | 8.47 | 4.25 | 7.47 | 0.96 |
| GPAC DIFF | 681. | 1.54 | 8.34 | 4.23 | 7.49 | 0.97 |
| GPAC DIFF | 682. | 1.54 | 8.24 | 4.21 | 7.50 | 0.97 |
| GPAC DIFF | 683. | 1.53 | 8.15 | 4.19 | 7.51 | 0.97 |
| GPAC DIFF | 684. | 1.52 | 8.08 | 4.18 | 7.51 | 0.97 |
| GPAC DIFF | 685. | 1.53 | 8.03 | 4.15 | 7.51 | 0.97 |
| GPAC DIFF | 686. | 1.53 | 7.93 | 4.15 | 7.51 | 0.97 |

CASE II

6.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 10.31 | 6.32 | 14.75 | 8.90 | 11.52 |
| PERSIST DIFF | | 4.12 | 8.21 | 0.89 | 1.35 | 0.19 |
| GPAC DIFF | 691. | 5.27 | 3.36 | 1.45 | 2.81 | 0.06 |
| GPAC DIFF | 692. | 5.19 | 3.72 | 1.43 | 2.89 | 0.07 |
| GPAC DIFF | 693. | 5.18 | 4.02 | 1.39 | 2.98 | 0.09 |
| GPAC DIFF | 694. | 5.19 | 4.08 | 1.38 | 3.01 | 0.09 |
| GPAC DIFF | 695. | 5.20 | 4.11 | 1.37 | 3.03 | 0.09 |
| GPAC DIFF | 696. | 5.21 | 4.12 | 1.35 | 3.04 | 0.09 |
| GPAC DIFF | 697. | 5.22 | 4.13 | 1.34 | 3.06 | 0.10 |
| GPAC DIFF | 698. | 5.23 | 4.14 | 1.34 | 3.07 | 0.09 |
| GPAC DIFF | 699. | 5.25 | 4.14 | 1.31 | 3.08 | 0.10 |

ROOT MEAN SQUARES OF THE DIFFERENCES BETWEEN
THE PREDICTED AND OBSERVED ATMOSPHERIC COLUMNS

CASE II

2.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 10.99 | 9.97 | 13.81 | 9.17 | 11.47 |
| PERSIST DIFF | | 2.47 | 3.89 | 0.81 | 0.45 | 0.09 |
| GPAC DIFF | 704. | 2.50 | 3.13 | 1.33 | 1.67 | 0.17 |
| GPAC DIFF | 705. | 2.36 | 3.18 | 1.33 | 1.68 | 0.17 |
| GPAC DIFF | 706. | 2.30 | 3.26 | 1.31 | 1.70 | 0.17 |
| GPAC DIFF | 707. | 2.33 | 3.29 | 1.31 | 1.70 | 0.17 |
| GPAC DIFF | 708. | 2.36 | 3.31 | 1.30 | 1.71 | 0.17 |
| GPAC DIFF | 709. | 2.41 | 3.32 | 1.29 | 1.72 | 0.17 |
| GPAC DIFF | 710. | 2.45 | 3.33 | 1.29 | 1.73 | 0.17 |
| GPAC DIFF | 711. | 2.50 | 3.34 | 1.29 | 1.73 | 0.17 |
| GPAC DIFF | 712. | 2.58 | 3.34 | 1.28 | 1.73 | 0.18 |

CASE II

1.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 11.90 | 11.22 | 14.33 | 9.25 | 11.45 |
| PERSIST DIFF | | 1.54 | 2.37 | 0.28 | 0.22 | 0.05 |
| GPAC DIFF | 717. | 2.81 | 2.27 | 0.70 | 1.18 | 0.10 |
| GPAC DIFF | 718. | 2.76 | 2.31 | 0.69 | 1.20 | 0.10 |
| GPAC DIFF | 719. | 2.73 | 2.38 | 0.69 | 1.19 | 0.10 |
| GPAC DIFF | 720. | 2.73 | 2.41 | 0.69 | 1.19 | 0.10 |
| GPAC DIFF | 721. | 2.74 | 2.43 | 0.69 | 1.19 | 0.10 |
| GPAC DIFF | 722. | 2.76 | 2.45 | 0.68 | 1.20 | 0.10 |
| GPAC DIFF | 723. | 2.78 | 2.47 | 0.68 | 1.20 | 0.10 |
| GPAC DIFF | 724. | 2.81 | 2.48 | 0.68 | 1.20 | 0.10 |
| GPAC DIFF | 725. | 2.86 | 2.51 | 0.68 | 1.21 | 0.10 |

CASE III TAPE LOG

| TAPE NO. | FCST INT | SM | KM8 D8 | SCG | ADV | GEO | REMARKS |
|-------------|-------------|----|-----------|-----|-----|-----|----------|
| 730. | 12.00 | A | V | A | N | O | |
| 731. | 12.00 | A | V | A | N | I | GEO=0.20 |
| 732. | 12.00 | A | V | A | N | I | GEO=0.40 |
| 733. | 12.00 | A | V | A | N | I | GEO=0.60 |
| 734. | 12.00 | A | V | A | N | I | GEO=0.80 |
| 735. | 12.00 | A | V | A | N | I | GEO=1.00 |
| 736. | 6.00 | A | V | A | N | O | |
| 737. | 6.00 | A | V | A | N | I | GEO=0.20 |
| 738. | 6.00 | A | V | A | N | I | GEO=0.40 |
| 739. | 6.00 | A | V | A | N | I | GEO=0.60 |
| 740. | 6.00 | A | V | A | N | I | GEO=0.80 |
| 741. | 6.00 | A | V | A | N | I | GEO=1.00 |
| 742. | 2.00 | A | V | A | N | O | |
| 743. | 2.00 | A | V | A | N | I | GEO=0.20 |
| 744. | 2.00 | A | V | A | N | I | GEO=0.40 |
| 745. | 2.00 | A | V | A | N | I | GEO=0.60 |
| 746. | 2.00 | A | V | A | N | I | GEO=0.80 |
| 747. | 2.00 | A | V | A | N | I | GEO=1.00 |
| 748. | 1.00 | A | V | A | N | O | |
| 749. | 1.00 | A | V | A | N | I | GEO=0.20 |
| 750. | 1.00 | A | V | A | N | I | GEO=0.40 |
| 751. | 1.00 | A | V | A | N | I | GEO=0.60 |
| 752. | 1.00 | A | V | A | N | I | GEO=0.80 |
| 753. | 1.00 | A | V | A | N | I | GEO=1.00 |

CASE III INITIAL CONDITIONS - 0000L 4 APRIL 1962
(PAGE 1 OF 2 PAGES)

SOIL PARAMETERS

| LEVEL (M) | TEMP (DEG C) | | |
|--------------|-----------------|------------------------------|---|
| 0.000 | 13.36 | LAMBDA | $= 0.59 \text{ CAL/CM}^3 \text{ DEG}$ |
| -0.125 | 13.44 | MU/LAMBDA | $= 0.0037 \text{ CM}^2/\text{SEC}$ |
| -0.250 | 13.29 | (MU X LAMBDA) ^{1/2} | $= 0.036 \text{ CAL}^2/\text{CM}^4 \text{ DEG SEC}$ |
| -0.500 | 13.55 | Z(0) | $= 2.0 \text{ CM}$ |
| -1.000 | 14.23 | S(0) | $= 0.0004 \text{ CAL/CM}^2 \text{ SEC MB}$ |
| -2.000 | 15.52 | G | $= 3500 \text{ CM}^2 \text{ SEC DEG/CAL}$ |

RADIATION PARAMETERS

| | | | |
|---------------------|------------------|-------------|---------------------------|
| LOCAL TIME = | 0000 | TURBIDITY = | 0.40 |
| DELTA | = 5.40 DEG | PSI = | 0.998 |
| R X 10 ⁵ | = 2.31 DEG C/SEC | F(C) = | 0.10 |
| CLOUD CLASS = | 4 | ALBEDO = | 0.25 |
| E*(8) | = 8.61 MB | M = | 1.000 |
| EPSILON | = 0.950 | N = | 0.0000 MB ^{-1/2} |
| PHI | = 32.5 DEG | H = | -180.0 DEG |

HORIZONTAL GRADIENTS

| LEVEL (M) | DE/DX (MB/100-KM) | DE/DY | DT/DX (DEG C/100-KM) | DT/DY |
|--------------|----------------------|-------|-------------------------|-------|
| 200 | -0.73 | -0.85 | -0.60 | -0.05 |
| 600 | -0.71 | -0.65 | -0.55 | -0.16 |
| 1000 | -0.69 | -0.45 | -0.49 | -0.27 |

CASE III INITIAL CONDITIONS - 0000L 4 APRIL 1962
(PAGE 2 OF 2 PAGES)

| LEVEL (M) | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|--------------|--------------------------------|-------|------------------------|------------------------|
| 1000 | 0.83 | 14.50 | 8.70 | 7.60 |
| 900 | 0.39 | 14.99 | 9.32 | 7.77 |
| 800 | -0.10 | 15.47 | 9.95 | 7.93 |
| 700 | -0.55 | 15.95 | 10.55 | 8.09 |
| 600 | -1.02 | 16.42 | 11.19 | 8.26 |
| 500 | -1.50 | 16.91 | 11.80 | 8.37 |
| 400 | -1.75 | 17.30 | 12.41 | 8.00 |
| 300 | -1.87 | 16.32 | 12.79 | 7.63 |
| 200 | -1.78 | 14.20 | 13.49 | 7.92 |
| 100 | -1.52 | 11.20 | 14.20 | 8.28 |
| 32 | -1.00 | 7.98 | 14.64 | 8.53 |
| 8 | -0.45 | 4.90 | 14.71 | 8.61 |

ADVECTION TERMS
-1 5
(SEC X 10)

| LEVEL (M) | ALPHA(1) | BETA(1) | ALPHA(2) | BETA(2) |
|--------------|----------|---------|----------|---------|
| 200 | -0.91 | -2.60 | 0.56 | -0.81 |
| 600 | -0.89 | -2.93 | 0.52 | -1.15 |
| 1000 | -0.87 | -3.26 | 0.47 | -1.48 |

SURFACE CONTOUR GRADIENTS

| PREDICTION INTERVAL (HR) | AZIMUTH (DEG FROM NORTH) | MAGNITUDE (FT/100-KM) |
|--------------------------------|-----------------------------|--------------------------|
| 0 | 93.60 | 48.39 |
| 1 | 98.30 | 46.57 |
| 2 | 97.90 | 46.40 |
| 6 | 94.40 | 47.18 |
| 12 | 90.70 | 47.78 |

CASE III COMPARISON DATA FROM DALLAS (1 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|-------|------------------------|------------------------|
| GEO | 2.55 | 17.52 | | |
| 1000 | 1.76 | 13.57 | 8.30 | 7.96 |
| 900 | 1.40 | 13.85 | 8.78 | 8.12 |
| 800 | 1.00 | 14.14 | 9.27 | 8.28 |
| 700 | 0.59 | 14.44 | 9.75 | 8.44 |
| 600 | 0.02 | 14.73 | 10.25 | 8.60 |
| 500 | -0.64 | 15.02 | 10.74 | 8.70 |
| 400 | -1.40 | 15.15 | 11.00 | 8.24 |
| 300 | -2.29 | 14.58 | 11.55 | 7.78 |
| 200 | -2.90 | 13.22 | 12.42 | 8.09 |
| 100 | -2.71 | 11.00 | 13.26 | 8.47 |
| 32 | -1.87 | 7.85 | 13.75 | 8.74 |
| 8 | -0.90 | 4.75 | 13.92 | 8.83 |
| 2 | XXXX | XXXX | 13.95 | 8.85 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| C.000 | 13.18 |
| -0.125 | 13.43 |
| -0.250 | 13.31 |
| -0.500 | 13.56 |
| -1.000 | 14.23 |
| -2.000 | 15.52 |

| | |
|---|------|
| 8 | 4.82 |
| 2 | 2.82 |

SURFACE SHEAR STRESS
(DYNES/CM SQ.)X10
TAU= XXXX

SURFACE ENRGY TERMS (LY/SEC)X1000

| | | | |
|---------|------|---------|------|
| S(D)= | 0.00 | Q(E,0)= | XXXX |
| R(N)= | XXXX | Q(S,0)= | XXXX |
| Q(C,0)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

E= XXXX

CASE III COMPARISON DATA FROM DALLAS (2 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|-------|------------------------|------------------------|
| GEO | 2.44 | 17.52 | | |
| 1000 | 2.49 | 13.98 | 8.45 | 8.32 |
| 900 | 2.02 | 14.48 | 8.95 | 8.48 |
| 800 | 1.60 | 14.98 | 9.45 | 8.63 |
| 700 | 1.13 | 15.50 | 9.97 | 8.79 |
| 600 | 0.70 | 16.00 | 10.48 | 8.94 |
| 500 | 0.21 | 16.51 | 10.99 | 9.03 |
| 400 | -0.45 | 16.83 | 11.10 | 8.48 |
| 300 | -1.39 | 15.37 | 11.00 | 7.92 |
| 200 | -1.99 | 13.50 | 11.76 | 8.25 |
| 100 | -2.01 | 11.20 | 12.60 | 8.66 |
| 32 | -1.50 | 7.95 | 13.15 | 8.95 |
| 8 | -0.75 | 4.10 | 13.32 | 9.05 |
| 2 | XXXX | XXXX | 13.35 | 9.07 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| C.000 | 13.02 |
| -0.125 | 13.35 |
| -0.250 | 13.32 |
| -0.500 | 13.57 |
| -1.000 | 14.22 |
| -2.000 | 15.52 |

| | |
|---|------|
| 8 | 4.17 |
| 2 | 2.04 |

SURFACE SHEAR STRESS
(DYNFS/CM SQ.)X10
TAU= XXXX

SURFACE ENERGY TERMS (LY/SEC)X1000

| | | | |
|---------|------|---------|------|
| S(D)= | 0.00 | Q(F,0)= | XXXX |
| R(N)= | XXXX | Q(S,0)= | XXXX |
| Q(C,0)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

E= XXXX

CASE III COMPARISON DATA FROM DALLAS (6 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|-------|------------------------|------------------------|
| GEO | 1.39 | 17.98 | | |
| 1000 | 5.48 | 12.59 | 8.54 | 9.76 |
| 900 | 5.06 | 13.03 | 9.00 | 9.90 |
| 800 | 4.63 | 13.50 | 9.48 | 10.04 |
| 700 | 4.22 | 13.99 | 9.95 | 10.18 |
| 600 | 3.81 | 14.48 | 10.44 | 10.31 |
| 500 | 3.30 | 14.95 | 10.90 | 10.35 |
| 400 | 2.20 | 15.40 | 10.85 | 9.43 |
| 300 | -1.31 | 14.70 | 10.04 | 8.50 |
| 200 | -4.48 | 12.01 | 10.30 | 8.90 |
| 100 | -4.70 | 8.71 | 10.65 | 9.42 |
| 32 | -3.75 | 5.37 | 10.50 | 9.78 |
| 8 | -2.30 | 3.00 | 10.49 | 9.91 |
| 2 | XXXX | XXXX | 10.49 | 9.94 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| 0.000 | 12.13 |
| -0.125 | 13.08 |
| -0.250 | 13.32 |
| -0.500 | 13.60 |
| -1.000 | 14.22 |
| -2.000 | 15.52 |

| | |
|---|------|
| 8 | 3.78 |
| 2 | 1.22 |

SURFACE SHEAR STRESS
(DYNES/CM²) X 10⁴
TAU= XXXX

SURFACE ENERGY TERMS (LY/SEC) X 1000

| | | | |
|---------|------|---------|------|
| S(D)= | 0.00 | Q(E,C)= | XXXX |
| R(N)= | XXXX | Q(S,O)= | XXXX |
| Q(C,O)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.) X 100

E= XXXX

CASE III COMPARISON DATA FROM DALLAS (12 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|-------|------------------------|------------------------|
| GEO | 0.23 | 18.21 | | |
| 1000 | -0.21 | 9.83 | 7.59 | 9.60 |
| 900 | -1.20 | 9.30 | 7.93 | 9.88 |
| 800 | -2.19 | 8.79 | 8.29 | 10.16 |
| 700 | -3.14 | 8.26 | 8.64 | 10.44 |
| 600 | -4.11 | 7.70 | 8.98 | 10.72 |
| 500 | -5.00 | 7.26 | 9.30 | 10.94 |
| 400 | -5.51 | 6.75 | 9.85 | 10.69 |
| 300 | -5.69 | 6.20 | 10.71 | 9.98 |
| 200 | -5.70 | 5.47 | 11.64 | 10.36 |
| 100 | -5.51 | 4.17 | 12.50 | 10.94 |
| 32 | -4.39 | 2.60 | 13.03 | 11.34 |
| 8 | -3.10 | 1.30 | 13.23 | 11.49 |
| 2 | XXXX | XXXX | 13.27 | 11.52 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SCIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| C.000 | 13.45 |
| -0.125 | 12.90 |
| -0.250 | 13.19 |
| -0.500 | 13.58 |
| -1.000 | 14.21 |
| -2.000 | 15.52 |

| | |
|---|------|
| 8 | 3.36 |
| 2 | 1.17 |

SURFACE SHEAR STRESS
(DYNES/CM SQ.)X10
TAU= XXXX

SURFACE ENRGY TERMS (LY/SEC)X1000

S(D)= 1.80
R(N)= XXXX
Q(C,0)= XXXX

Q(E,C)= XXXX
Q(S,C)= XXXX

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

E= XXXX

CASE III GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|---------|---------|---------|---------|
| K(CM SQ/SEC) | 29094 | 27599 | 26894 | 26474 |
| TAPE NO. | 730. | 731. | 732. | 733. |
| INTERVAL | 12.00HR | 12.00HR | 12.00HR | 12.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|--------|--------|--------|-------|-------|-------|-------|-------|
| GEO | 0.24 | 0.00 | 0.24 | 0.00 | 0.24 | 0.00 | 0.24 | 0.01 |
| 1000 | -12.66 | -12.45 | -8.46 | -8.25 | -6.22 | -6.01 | -4.86 | -4.65 |
| 900 | -12.30 | -11.10 | -10.28 | -9.08 | -9.22 | -8.02 | -8.57 | -7.37 |
| 800 | -11.97 | -9.78 | -10.55 | -8.36 | -9.79 | -7.60 | -9.33 | -7.14 |
| 700 | -11.66 | -8.52 | -10.54 | -7.40 | -9.93 | -6.79 | -9.56 | -6.42 |
| 600 | -11.37 | -7.26 | -10.42 | -6.31 | -9.89 | -5.78 | -9.58 | -5.47 |
| 500 | -11.06 | -6.06 | -10.23 | -5.23 | -9.77 | -4.77 | -9.50 | -4.50 |
| 400 | -10.76 | -5.25 | -9.99 | -4.48 | -9.60 | -4.09 | -9.36 | -3.85 |
| 300 | -10.37 | -4.68 | -9.67 | -3.98 | -9.33 | -3.64 | -9.12 | -3.43 |
| 200 | -9.86 | -4.16 | -9.24 | -3.54 | -8.93 | -3.23 | -8.73 | -3.03 |
| 100 | -9.06 | -3.55 | -8.52 | -3.01 | -8.25 | -2.74 | -8.08 | -2.57 |
| 32 | -7.84 | -3.45 | -7.39 | -3.00 | -7.16 | -2.77 | -7.02 | -2.63 |
| 8 | -6.38 | -3.27 | -6.02 | -2.92 | -5.83 | -2.73 | -5.72 | -2.62 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 18.20 | -0.01 | 18.20 | -0.01 | 18.20 | -0.01 | 18.20 | -0.01 |
| 1000 | 27.88 | 18.05 | 23.59 | 13.76 | 21.72 | 11.89 | 20.76 | 10.93 |
| 900 | 25.46 | 16.16 | 23.16 | 13.86 | 22.13 | 12.82 | 21.57 | 12.27 |
| 800 | 24.12 | 15.33 | 22.36 | 13.57 | 21.55 | 12.76 | 21.11 | 12.31 |
| 700 | 23.11 | 14.85 | 21.61 | 13.35 | 20.91 | 12.65 | 20.52 | 12.26 |
| 600 | 22.25 | 14.55 | 20.90 | 13.20 | 20.26 | 12.56 | 19.91 | 12.21 |
| 500 | 21.45 | 14.19 | 20.21 | 12.95 | 19.63 | 12.37 | 19.31 | 12.05 |
| 400 | 20.63 | 13.88 | 19.49 | 12.74 | 18.95 | 12.20 | 18.65 | 11.90 |
| 300 | 19.76 | 13.56 | 18.69 | 12.49 | 18.19 | 11.99 | 17.91 | 11.71 |
| 200 | 18.67 | 13.20 | 17.69 | 12.22 | 17.22 | 11.75 | 16.96 | 11.49 |
| 100 | 17.11 | 12.94 | 16.23 | 12.06 | 15.81 | 11.64 | 15.58 | 11.41 |
| 32 | 14.76 | 12.16 | 14.01 | 11.41 | 13.65 | 11.05 | 13.45 | 10.85 |
| 8 | 11.98 | 12.68 | 11.38 | 10.07 | 11.09 | 9.79 | 10.92 | 9.62 |

CASE III GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 730. 12.00HR | | 731. 12.00HR | | 732. 12.00HR | | 733. 12.00HR | |
|-------------------------|-----------------|-------|-----------------|-------|-----------------|-------|-----------------|-------|
| AIR TEMPERATURE (DEG C) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 11.54 | 3.95 | 11.74 | 4.15 | 11.85 | 4.26 | 11.93 | 4.34 |
| 900 | 11.53 | 3.60 | 11.71 | 3.78 | 11.81 | 3.88 | 11.90 | 3.97 |
| 800 | 11.49 | 3.20 | 11.67 | 3.38 | 11.77 | 3.48 | 11.83 | 3.54 |
| 700 | 11.51 | 2.87 | 11.67 | 3.03 | 11.76 | 3.12 | 11.82 | 3.18 |
| 600 | 11.48 | 2.50 | 11.65 | 2.67 | 11.74 | 2.76 | 11.79 | 2.81 |
| 500 | 11.51 | 2.12 | 11.66 | 2.27 | 11.76 | 2.37 | 11.81 | 2.42 |
| 400 | 11.52 | 1.67 | 11.67 | 1.82 | 11.76 | 1.91 | 11.82 | 1.97 |
| 300 | 11.53 | 0.82 | 11.69 | 0.98 | 11.79 | 1.08 | 11.83 | 1.12 |
| 200 | 11.54 | -0.10 | 11.71 | 0.07 | 11.78 | 0.14 | 11.84 | 0.20 |
| 100 | 11.59 | -0.91 | 11.75 | -0.75 | 11.85 | -0.65 | 11.91 | -0.59 |
| 52 | 11.61 | -1.42 | 11.76 | -1.27 | 11.84 | -1.19 | 11.90 | -1.13 |
| 8 | 11.73 | -1.50 | 11.91 | -1.32 | 11.99 | -1.24 | 12.04 | -1.19 |
| 2 | 11.79 | -1.48 | 11.96 | -1.31 | 12.04 | -1.23 | 12.10 | -1.17 |
| 0 | 12.02 | XXXX | 12.19 | XXXX | 12.28 | XXXX | 12.34 | XXXX |
| VAPOR PRESSURE (MB) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 10.59 | 0.99 | 10.77 | 1.17 | 10.89 | 1.29 | 10.96 | 1.36 |
| 900 | 10.79 | 0.91 | 10.94 | 1.06 | 11.05 | 1.17 | 11.11 | 1.23 |
| 800 | 10.92 | 0.76 | 11.09 | 0.93 | 11.18 | 1.02 | 11.25 | 1.09 |
| 700 | 11.09 | 0.65 | 11.25 | 0.81 | 11.35 | 0.91 | 11.42 | 0.98 |
| 600 | 11.22 | 0.50 | 11.38 | 0.66 | 11.47 | 0.75 | 11.53 | 0.81 |
| 500 | 11.39 | 0.45 | 11.53 | 0.59 | 11.63 | 0.69 | 11.69 | 0.75 |
| 400 | 11.51 | 0.82 | 11.66 | 0.97 | 11.75 | 1.06 | 11.82 | 1.13 |
| 300 | 11.66 | 1.68 | 11.83 | 1.85 | 11.91 | 1.93 | 11.99 | 2.01 |
| 200 | 11.79 | 1.43 | 11.95 | 1.59 | 12.04 | 1.68 | 12.09 | 1.73 |
| 100 | 11.93 | 0.99 | 12.09 | 1.15 | 12.19 | 1.25 | 12.25 | 1.31 |
| 52 | 12.05 | 0.71 | 12.22 | 0.88 | 12.31 | 0.97 | 12.38 | 1.04 |
| 8 | 12.13 | 0.64 | 12.29 | 0.80 | 12.39 | 0.90 | 12.45 | 0.96 |
| 2 | 12.17 | 0.65 | 12.33 | 0.81 | 12.41 | 0.89 | 12.48 | 0.96 |
| 0 | 12.31 | XXXX | 12.48 | XXXX | 12.50 | XXXX | 12.63 | XXXX |

CASE III GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|---------|---------|---------|---------|
| TAPE NO. | 730. | 731. | 732. | 733. |
| INTERVAL | 12.00HR | 12.00HR | 12.00HR | 12.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 12.07 | -1.38 | 12.15 | -1.30 | 12.21 | -1.24 | 12.23 | -1.22 |
| -0.125 | 12.76 | -0.14 | 12.78 | -0.12 | 12.78 | -0.12 | 12.79 | -0.11 |
| -0.250 | 13.26 | 0.07 | 13.27 | 0.08 | 13.27 | 0.08 | 13.26 | 0.07 |
| -0.500 | 13.59 | 0.01 | 13.59 | 0.01 | 13.60 | 0.02 | 13.60 | 0.02 |
| -1.000 | 14.23 | 0.02 | 14.24 | 0.03 | 14.23 | 0.02 | 14.23 | 0.02 |
| -2.000 | 15.51 | -0.01 | 15.51 | -0.01 | 15.51 | -0.01 | 15.51 | -0.01 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|------|-------|------|-------|------|
| 8 | 13.58 | 10.22 | 12.87 | 9.51 | 12.53 | 9.17 | 12.34 | 8.98 |
| 2 | 10.90 | 9.73 | 10.41 | 9.24 | 10.17 | 9.00 | 10.03 | 8.86 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|------|------|------|------|------|------|
| S(D) | 1.93 | 0.13 | 1.92 | 0.13 | 1.90 | 0.10 | 1.92 | 0.13 |
| R(N) | 1.36 | XXXX | 1.36 | XXXX | 1.36 | XXXX | 1.36 | XXXX |
| Q(C,0) | 0.65 | XXXX | 0.63 | XXXX | 0.63 | XXXX | 0.61 | XXXX |
| Q(E,0) | 0.72 | XXXX | 0.71 | XXXX | 0.70 | XXXX | 0.71 | XXXX |
| Q(S,0) | -0.01 | XXXX | 0.01 | XXXX | 0.03 | XXXX | 0.04 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 90.20 | XXXX | 81.08 | XXXX | 76.86 | XXXX | 74.48 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 7.20 | XXXX | 7.10 | XXXX | 7.10 | XXXX | 7.10 | XXXX |

CASE III GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|---------|---------|--------|--------|
| K(CM SQ/SEC) | 26194 | 26009 | 24829 | 24484 |
| TAPE NO. | 734. | 735. | 736. | 737. |
| INTERVAL | 12.00HR | 12.00HR | 6.00HR | 6.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|--------|--------|-------|--------|
| GE0 | 0.24 | 0.01 | 0.24 | 0.01 | 1.39 | -0.00 | 1.39 | -0.00 |
| 1000 | -3.97 | -3.76 | -3.33 | -3.12 | -10.02 | -15.50 | -6.43 | -11.91 |
| 900 | -8.14 | -6.94 | -7.84 | -6.64 | -10.07 | -15.13 | -8.53 | -13.59 |
| 800 | -9.03 | -6.84 | -8.82 | -6.63 | -9.97 | -14.60 | -8.95 | -13.58 |
| 700 | -9.32 | -6.18 | -9.15 | -6.01 | -9.82 | -14.04 | -9.03 | -13.25 |
| 600 | -9.38 | -5.27 | -9.24 | -5.13 | -9.64 | -13.45 | -8.99 | -12.80 |
| 500 | -9.32 | -4.32 | -9.19 | -4.19 | -9.45 | -12.75 | -8.88 | -12.18 |
| 400 | -9.20 | -3.69 | -9.08 | -3.57 | -9.23 | -11.43 | -8.74 | -10.94 |
| 300 | -8.97 | -3.28 | -8.86 | -3.17 | -8.93 | -7.62 | -8.49 | -7.18 |
| 200 | -8.60 | -2.90 | -8.51 | -2.81 | -8.53 | -4.05 | -8.14 | -3.66 |
| 100 | -7.96 | -2.45 | -7.88 | -2.37 | -7.87 | -3.17 | -7.53 | -2.83 |
| 32 | -6.92 | -2.53 | -6.85 | -2.46 | -6.82 | -3.07 | -6.54 | -2.79 |
| 8 | -5.64 | -2.54 | -5.59 | -2.49 | -5.55 | -3.25 | -5.32 | -3.02 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GE0 | 18.20 | -0.01 | 18.20 | -0.01 | 17.96 | -0.02 | 17.96 | -0.01 |
| 1000 | 20.18 | 10.35 | 19.81 | 9.98 | 23.21 | 10.62 | 21.42 | 8.83 |
| 900 | 21.23 | 11.93 | 21.00 | 11.70 | 21.52 | 8.49 | 20.89 | 7.86 |
| 800 | 20.84 | 12.05 | 20.65 | 11.86 | 20.51 | 7.01 | 20.15 | 6.65 |
| 700 | 20.28 | 12.02 | 20.13 | 11.83 | 19.72 | 5.73 | 19.47 | 5.48 |
| 600 | 19.70 | 12.00 | 19.55 | 11.85 | 19.04 | 4.56 | 18.83 | 4.35 |
| 500 | 19.11 | 11.85 | 18.97 | 11.71 | 18.39 | 3.44 | 18.23 | 3.28 |
| 400 | 18.46 | 11.71 | 18.33 | 11.58 | 17.72 | 2.32 | 17.58 | 2.18 |
| 300 | 17.73 | 11.53 | 17.61 | 11.41 | 16.99 | 2.29 | 16.87 | 2.17 |
| 200 | 16.80 | 11.33 | 16.68 | 11.21 | 16.08 | 4.07 | 15.97 | 3.96 |
| 100 | 15.42 | 11.25 | 15.32 | 11.15 | 14.75 | 6.04 | 14.65 | 5.94 |
| 32 | 13.32 | 10.72 | 13.24 | 10.64 | 12.73 | 7.36 | 12.65 | 7.28 |
| 8 | 10.82 | 9.52 | 10.70 | 9.40 | 10.33 | 7.33 | 10.26 | 7.26 |

CASE III GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 734. 12.00HR | | 735. 12.00HR | | 736. 6.00HR | | 737. 6.00HR | |
|-------------------------|-----------------|-------|-----------------|-------|----------------|-------|----------------|-------|
| AIR TEMPERATURE (DEG C) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 11.98 | 4.39 | 12.02 | 4.43 | 11.69 | 3.15 | 11.79 | 3.25 |
| 900 | 11.92 | 3.99 | 11.96 | 4.03 | 11.59 | 2.59 | 11.66 | 2.66 |
| 800 | 11.87 | 3.58 | 11.90 | 3.61 | 11.52 | 2.04 | 11.57 | 2.09 |
| 700 | 11.86 | 3.22 | 11.91 | 3.27 | 11.49 | 1.54 | 11.53 | 1.58 |
| 600 | 11.84 | 2.86 | 11.87 | 2.89 | 11.42 | 0.98 | 11.47 | 1.03 |
| 500 | 11.84 | 2.47 | 11.90 | 2.51 | 11.42 | 0.52 | 11.45 | 0.55 |
| 400 | 11.83 | 2.01 | 11.90 | 2.05 | 11.38 | 0.53 | 11.43 | 0.58 |
| 300 | 11.82 | 1.58 | 11.91 | 1.20 | 11.35 | 1.31 | 11.41 | 1.37 |
| 200 | 11.83 | 0.23 | 11.91 | 0.27 | 11.32 | 1.02 | 11.35 | 1.05 |
| 100 | 11.91 | -0.57 | 11.90 | -0.60 | 11.29 | 0.64 | 11.33 | 0.68 |
| 32 | 11.94 | -1.09 | 11.97 | -1.06 | 11.18 | 0.68 | 11.23 | 0.73 |
| 8 | 12.07 | -1.16 | 12.11 | -1.12 | 11.10 | 0.70 | 11.22 | 0.73 |
| 2 | 12.11 | -1.14 | 12.17 | -1.10 | 11.11 | 0.62 | 11.14 | 0.65 |
| 0 | 12.38 | XXXX | 12.41 | XXXX | 10.94 | XXXX | 10.92 | XXXX |
| VAPOR PRESSURE (MB) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 11.01 | 1.41 | 11.06 | 1.36 | 9.21 | -0.55 | 9.31 | -0.45 |
| 900 | 11.15 | 1.27 | 11.19 | 1.31 | 9.39 | -0.51 | 9.47 | -0.43 |
| 800 | 11.28 | 1.12 | 11.53 | 1.17 | 9.53 | -0.51 | 9.59 | -0.45 |
| 700 | 11.45 | 1.01 | 11.49 | 1.05 | 9.71 | -0.47 | 9.75 | -0.43 |
| 600 | 11.57 | 0.85 | 11.61 | 0.89 | 9.81 | -0.50 | 9.86 | -0.45 |
| 500 | 11.73 | 0.79 | 11.77 | 0.83 | 9.95 | -0.40 | 10.01 | -0.34 |
| 400 | 11.85 | 1.16 | 11.90 | 1.21 | 10.08 | 0.65 | 10.13 | 0.70 |
| 300 | 12.02 | 2.04 | 12.04 | 2.06 | 10.21 | 1.71 | 10.26 | 1.76 |
| 200 | 12.13 | 1.77 | 12.17 | 1.81 | 10.32 | 1.43 | 10.37 | 1.47 |
| 100 | 12.29 | 1.35 | 12.32 | 1.38 | 10.49 | 1.07 | 10.52 | 1.10 |
| 32 | 12.41 | 1.07 | 12.45 | 1.11 | 10.60 | 0.82 | 10.64 | 0.86 |
| 8 | 12.49 | 1.00 | 12.53 | 1.04 | 10.69 | 0.78 | 10.72 | 0.81 |
| 2 | 12.53 | 1.01 | 12.57 | 1.05 | 10.76 | 0.82 | 10.79 | 0.85 |
| 0 | 12.69 | XXXX | 12.73 | XXXX | 10.94 | XXXX | 10.97 | XXXX |

CASE III GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|---------|---------|--------|--------|
| TAPE NO. | 734. | 735. | 736. | 737. |
| INTERVAL | 12.00HR | 12.00HR | 6.00HR | 6.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 12.24 | -1.21 | 12.27 | -1.18 | 11.90 | -0.23 | 11.90 | -0.23 |
| -0.125 | 12.81 | -0.09 | 12.80 | -0.10 | 13.05 | -0.03 | 13.05 | -0.03 |
| -0.250 | 13.29 | 0.10 | 13.27 | 0.08 | 13.35 | 0.03 | 13.34 | 0.02 |
| -0.500 | 13.61 | 0.03 | 13.59 | 0.01 | 13.57 | -0.03 | 13.57 | -0.03 |
| -1.000 | 14.23 | 0.02 | 14.24 | 0.03 | 14.23 | 0.01 | 14.23 | 0.01 |
| -2.000 | 15.51 | -0.01 | 15.51 | -0.01 | 15.50 | -0.02 | 15.51 | -0.01 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|------|-------|------|-------|------|-------|------|
| 8 | 12.21 | 8.85 | 12.12 | 8.76 | 11.73 | 7.95 | 11.57 | 7.79 |
| 2 | 9.94 | 8.77 | 9.88 | 8.71 | 8.60 | 7.38 | 8.47 | 7.25 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|-------|------|-------|------|
| S(D) | 1.92 | 0.13 | 1.93 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 |
| R(M) | 1.36 | XXXX | 1.36 | XXXX | 0.00 | XXXX | 0.00 | XXXX |
| Q(C,0) | 0.61 | XXXX | 0.61 | XXXX | -0.56 | XXXX | -0.56 | XXXX |
| Q(E,0) | 0.70 | XXXX | 0.70 | XXXX | 0.84 | XXXX | 0.83 | XXXX |
| Q(S,0) | 0.04 | XXXX | 0.05 | XXXX | -0.28 | XXXX | -0.27 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 72.94 | XXXX | 71.88 | XXXX | 66.76 | XXXX | 64.92 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 7.10 | XXXX | 7.10 | XXXX | 4.30 | XXXX | 4.30 | XXXX |

CASE III GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 24274 | 24134 | 24039 | 23964 |
| TAPE NO. | 738. | 739. | 740. | 741. |
| INTERVAL | 6.00HR | 6.00HR | 6.00HR | 6.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|--------|-------|--------|-------|--------|-------|--------|
| GEO | 1.39 | -0.00 | 1.39 | -0.00 | 1.39 | -0.00 | 1.39 | -0.00 |
| 1000 | -4.49 | -9.97 | -3.31 | -8.79 | -2.51 | -7.99 | -1.94 | -7.42 |
| 900 | -7.68 | -12.74 | -7.16 | -12.22 | -6.80 | -11.86 | -6.54 | -11.60 |
| 800 | -8.36 | -12.99 | -8.01 | -12.64 | -7.76 | -12.39 | -7.59 | -12.22 |
| 700 | -8.58 | -12.80 | -8.30 | -12.52 | -8.11 | -12.33 | -7.97 | -12.19 |
| 600 | -8.62 | -12.43 | -8.39 | -12.20 | -8.23 | -12.04 | -8.11 | -11.92 |
| 500 | -8.56 | -11.86 | -8.36 | -11.66 | -8.22 | -11.52 | -8.12 | -11.42 |
| 400 | -8.45 | -10.65 | -8.28 | -10.48 | -8.15 | -10.35 | -8.06 | -10.26 |
| 300 | -8.24 | -6.93 | -8.08 | -6.77 | -7.97 | -6.66 | -7.89 | -6.58 |
| 200 | -7.91 | -3.44 | -7.77 | -3.29 | -7.67 | -3.19 | -7.55 | -3.07 |
| 100 | -7.33 | -2.63 | -7.20 | -2.51 | -7.11 | -2.41 | -7.05 | -2.35 |
| 32 | -6.38 | -2.63 | -6.27 | -2.52 | -6.19 | -2.44 | -6.14 | -2.39 |
| 8 | -5.19 | -2.89 | -5.11 | -2.81 | -5.05 | -2.75 | -5.01 | -2.71 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 17.96 | -0.01 | 17.96 | -0.01 | 17.96 | -0.01 | 17.97 | -0.01 |
| 1000 | 20.45 | 7.86 | 19.88 | 7.28 | 19.50 | 6.91 | 19.25 | 6.66 |
| 900 | 20.53 | 7.50 | 20.30 | 7.27 | 20.15 | 7.12 | 20.04 | 7.01 |
| 800 | 19.93 | 6.43 | 19.78 | 6.28 | 19.69 | 6.19 | 19.61 | 6.11 |
| 700 | 19.31 | 5.32 | 19.20 | 5.21 | 19.13 | 5.14 | 19.07 | 5.08 |
| 600 | 18.71 | 4.23 | 18.62 | 4.14 | 18.56 | 4.08 | 18.51 | 4.03 |
| 500 | 18.11 | 3.16 | 18.04 | 3.09 | 17.98 | 3.03 | 17.95 | 3.00 |
| 400 | 17.48 | 2.08 | 17.42 | 2.02 | 17.37 | 1.97 | 17.33 | 1.93 |
| 300 | 16.78 | 2.08 | 16.72 | 2.02 | 16.68 | 1.98 | 16.65 | 1.95 |
| 200 | 15.89 | 3.88 | 15.84 | 3.83 | 15.80 | 3.79 | 15.77 | 3.76 |
| 100 | 14.59 | 5.88 | 14.54 | 5.83 | 14.51 | 5.80 | 14.48 | 5.77 |
| 32 | 12.59 | 7.22 | 12.56 | 7.19 | 12.53 | 7.16 | 12.50 | 7.13 |
| 8 | 10.22 | 7.22 | 10.19 | 7.19 | 10.17 | 7.17 | 10.15 | 7.15 |

CASE III GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 738. | 739. | 740. | 741. |
| INTERVAL | 6.00HR | 6.00HR | 6.00HR | 6.00HR |

AIR TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|------|-------|------|-------|------|-------|------|
| 1000 | 11.84 | 3.30 | 11.87 | 3.33 | 11.90 | 3.36 | 11.91 | 3.37 |
| 900 | 11.72 | 2.72 | 11.74 | 2.74 | 11.77 | 2.77 | 11.79 | 2.79 |
| 800 | 11.61 | 2.13 | 11.64 | 2.16 | 11.65 | 2.17 | 11.67 | 2.19 |
| 700 | 11.57 | 1.62 | 11.59 | 1.64 | 11.61 | 1.66 | 11.61 | 1.66 |
| 600 | 11.51 | 1.07 | 11.52 | 1.08 | 11.54 | 1.10 | 11.55 | 1.11 |
| 500 | 11.49 | 0.59 | 11.51 | 0.61 | 11.53 | 0.63 | 11.53 | 0.63 |
| 400 | 11.45 | 0.60 | 11.47 | 0.62 | 11.49 | 0.64 | 11.51 | 0.66 |
| 300 | 11.43 | 1.39 | 11.44 | 1.40 | 11.46 | 1.42 | 11.47 | 1.43 |
| 200 | 11.38 | 1.08 | 11.41 | 1.11 | 11.42 | 1.12 | 11.43 | 1.13 |
| 100 | 11.36 | 0.71 | 11.39 | 0.74 | 11.39 | 0.74 | 11.41 | 0.76 |
| 32 | 11.25 | 0.75 | 11.27 | 0.77 | 11.29 | 0.79 | 11.29 | 0.79 |
| 8 | 11.20 | 0.71 | 11.26 | 0.77 | 11.29 | 0.80 | 11.29 | 0.80 |
| 2 | 11.13 | 0.64 | 11.18 | 0.69 | 11.20 | 0.71 | 11.21 | 0.72 |
| 0 | 10.95 | XXXX | 10.96 | XXXX | 10.97 | XXXX | 10.98 | XXXX |

VAPOR PRESSURE (MB)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 9.39 | -0.37 | 9.43 | -0.33 | 9.47 | -0.29 | 9.48 | -0.28 |
| 900 | 9.53 | -0.37 | 9.57 | -0.33 | 9.61 | -0.29 | 9.61 | -0.29 |
| 800 | 9.66 | -0.38 | 9.69 | -0.35 | 9.71 | -0.33 | 9.72 | -0.32 |
| 700 | 9.81 | -0.37 | 9.84 | -0.34 | 9.86 | -0.32 | 9.87 | -0.31 |
| 600 | 9.91 | -0.40 | 9.94 | -0.37 | 9.96 | -0.35 | 9.97 | -0.34 |
| 500 | 10.05 | -0.30 | 10.09 | -0.26 | 10.01 | -0.34 | 10.11 | -0.24 |
| 400 | 10.17 | 0.74 | 10.19 | 0.76 | 10.23 | 0.80 | 10.23 | 0.80 |
| 300 | 10.31 | 1.81 | 10.34 | 1.84 | 10.36 | 1.86 | 10.39 | 1.89 |
| 200 | 10.42 | 1.52 | 10.45 | 1.55 | 10.47 | 1.57 | 10.48 | 1.58 |
| 100 | 10.56 | 1.14 | 10.59 | 1.17 | 10.61 | 1.19 | 10.62 | 1.20 |
| 32 | 10.68 | 0.90 | 10.72 | 0.94 | 10.73 | 0.95 | 10.74 | 0.96 |
| 8 | 10.79 | 0.88 | 10.79 | 0.88 | 10.81 | 0.90 | 10.82 | 0.91 |
| 2 | 10.85 | 0.91 | 10.86 | 0.92 | 10.88 | 0.94 | 10.89 | 0.95 |
| 0 | 11.02 | XXXX | 11.05 | XXXX | 11.06 | XXXX | 11.08 | XXXX |

CASE III

GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 738. | 739. | 740. | 741. |
| INTERVAL | 6.00HR | 6.00HR | 6.00HR | 6.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| C.000 | 11.91 | -0.22 | 11.91 | -0.22 | 11.91 | -0.22 | 11.91 | -0.22 |
| -0.125 | 13.05 | -0.03 | 13.05 | -0.03 | 13.06 | -0.02 | 13.06 | -0.02 |
| -0.250 | 13.35 | 0.03 | 13.34 | 0.02 | 13.35 | 0.03 | 13.34 | 0.02 |
| -0.500 | 13.57 | -0.03 | 13.57 | -0.03 | 13.57 | -0.03 | 13.58 | -0.02 |
| -1.000 | 14.25 | 0.03 | 14.23 | 0.01 | 14.24 | 0.02 | 14.24 | 0.02 |
| -2.000 | 15.51 | -0.01 | 15.51 | -0.01 | 15.51 | -0.01 | 15.51 | -0.01 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|------|-------|------|-------|------|-------|------|
| 8 | 11.47 | 7.69 | 11.40 | 7.62 | 11.36 | 7.58 | 11.32 | 7.54 |
| 2 | 8.39 | 7.17 | 8.33 | 7.11 | 8.29 | 7.07 | 8.27 | 7.05 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| S(D) | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| R(N) | 0.00 | XXXX | 0.00 | XXXX | 0.00 | XXXX | 0.00 | XXXX |
| Q(C,0) | -0.55 | XXXX | -0.55 | XXXX | -0.55 | XXXX | -0.54 | XXXX |
| Q(E,0) | 0.83 | XXXX | 0.83 | XXXX | 0.82 | XXXX | 0.82 | XXXX |
| Q(S,0) | -0.27 | XXXX | -0.26 | XXXX | -0.26 | XXXX | -0.26 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 63.80 | XXXX | 63.08 | XXXX | 62.56 | XXXX | 62.16 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 4.30 | XXXX | 4.30 | XXXX | 4.20 | XXXX | 4.30 | XXXX |

CASE III

GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 20054 | 20064 | 20074 | 20089 |
| TAPE NO. | 742. | 743. | 744. | 745. |
| INTERVAL | 2.00HR | 2.00HR | 2.00HR | 2.00HR |

U COMPONENT (M/SEC)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 2.66 | 0.23 | 2.66 | 0.23 | 2.66 | 0.23 | 2.66 | 0.22 |
| 1000 | -3.56 | -6.05 | -2.22 | -4.71 | -1.30 | -3.79 | -0.64 | -3.13 |
| 900 | -4.08 | -6.10 | -3.75 | -5.77 | -3.51 | -5.53 | -3.32 | -5.35 |
| 800 | -4.32 | -5.93 | -4.17 | -5.77 | -4.06 | -5.66 | -3.97 | -5.57 |
| 700 | -4.45 | -5.59 | -4.38 | -5.51 | -4.31 | -5.44 | -4.26 | -5.39 |
| 600 | -4.52 | -5.22 | -4.47 | -5.17 | -4.43 | -5.13 | -4.40 | -5.10 |
| 500 | -4.54 | -4.75 | -4.51 | -4.72 | -4.48 | -4.69 | -4.46 | -4.67 |
| 400 | -4.55 | -4.10 | -4.52 | -4.07 | -4.51 | -4.06 | -4.49 | -4.04 |
| 300 | -4.49 | -3.10 | -4.47 | -3.08 | -4.46 | -3.07 | -4.45 | -3.06 |
| 200 | -4.36 | -2.38 | -4.35 | -2.36 | -4.33 | -2.34 | -4.33 | -2.34 |
| 100 | -4.08 | -2.07 | -4.07 | -2.06 | -4.06 | -2.05 | -4.05 | -2.04 |
| 32 | -3.58 | -2.03 | -3.57 | -2.07 | -3.57 | -2.07 | -3.57 | -2.07 |
| 8 | -2.93 | -2.18 | -2.92 | -2.17 | -2.92 | -2.17 | -2.92 | -2.17 |

V COMPONENT (M/SEC)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 17.51 | -0.01 | 17.51 | -0.01 | 17.51 | -0.01 | 17.50 | -0.02 |
| 1000 | 17.95 | 3.57 | 18.25 | 4.27 | 18.36 | 4.38 | 18.35 | 4.37 |
| 900 | 17.74 | 3.26 | 17.93 | 3.45 | 18.04 | 3.56 | 18.10 | 3.62 |
| 800 | 17.34 | 2.36 | 17.46 | 2.48 | 17.54 | 2.56 | 17.55 | 2.57 |
| 700 | 16.91 | 1.41 | 16.99 | 1.49 | 17.05 | 1.55 | 17.09 | 1.59 |
| 600 | 16.47 | 0.47 | 16.53 | 0.53 | 16.58 | 0.58 | 16.61 | 0.61 |
| 500 | 16.02 | -0.49 | 16.06 | -0.45 | 16.09 | -0.42 | 16.12 | -0.39 |
| 400 | 15.50 | -1.33 | 15.54 | -1.29 | 15.56 | -1.27 | 15.58 | -1.25 |
| 300 | 14.92 | -0.45 | 14.95 | -0.42 | 14.97 | -0.40 | 14.99 | -0.36 |
| 200 | 14.16 | 0.66 | 14.18 | 0.68 | 14.19 | 0.69 | 14.20 | 0.70 |
| 100 | 13.01 | 1.81 | 13.03 | 1.83 | 13.04 | 1.84 | 13.04 | 1.84 |
| 32 | 11.24 | 3.29 | 11.25 | 3.30 | 11.26 | 3.31 | 11.27 | 3.32 |
| 8 | 9.12 | 5.02 | 9.13 | 5.03 | 9.13 | 5.03 | 9.14 | 5.04 |

CASE III GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 742. 2.00HR | | 743. 2.00HR | | 744. 2.00HR | | 745. 2.00HR | |
|-------------------------|----------------|-------|----------------|-------|----------------|-------|----------------|-------|
| AIR TEMPERATURE (DEG C) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 10.81 | 2.36 | 10.83 | 2.38 | 10.84 | 2.39 | 10.85 | 2.40 |
| 900 | 11.38 | 2.43 | 11.39 | 2.44 | 11.39 | 2.44 | 11.41 | 2.46 |
| 800 | 11.55 | 2.10 | 11.56 | 2.11 | 11.56 | 2.11 | 11.57 | 2.12 |
| 700 | 11.65 | 1.68 | 11.66 | 1.69 | 11.66 | 1.69 | 11.67 | 1.70 |
| 600 | 11.69 | 1.21 | 11.69 | 1.21 | 11.70 | 1.22 | 11.70 | 1.22 |
| 500 | 11.73 | 0.74 | 11.74 | 0.75 | 11.74 | 0.75 | 11.74 | 0.75 |
| 400 | 11.75 | 0.65 | 11.75 | 0.65 | 11.75 | 0.65 | 11.76 | 0.66 |
| 300 | 11.75 | 0.75 | 11.75 | 0.75 | 11.75 | 0.75 | 11.75 | 0.75 |
| 200 | 11.73 | -0.03 | 11.73 | -0.03 | 11.73 | -0.03 | 11.73 | -0.03 |
| 100 | 11.71 | -0.89 | 11.71 | -0.89 | 11.71 | -0.89 | 11.71 | -0.89 |
| 32 | 11.57 | -1.58 | 11.57 | -1.58 | 11.57 | -1.58 | 11.59 | -1.56 |
| 8 | 11.53 | -1.79 | 11.53 | -1.79 | 11.54 | -1.78 | 11.54 | -1.78 |
| 2 | 11.38 | -1.97 | 11.38 | -1.97 | 11.38 | -1.97 | 11.39 | -1.96 |
| 0 | 11.03 | XXXX | 11.04 | XXXX | 11.03 | XXXX | 11.04 | XXXX |
| VAPOR PRESSURE (MB) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 8.18 | -0.14 | 8.21 | -0.11 | 8.22 | -0.10 | 8.24 | -0.08 |
| 900 | 8.32 | -0.16 | 8.35 | -0.13 | 8.35 | -0.13 | 8.37 | -0.11 |
| 800 | 8.44 | -0.19 | 8.46 | -0.17 | 8.47 | -0.16 | 8.48 | -0.15 |
| 700 | 8.60 | -0.19 | 8.62 | -0.17 | 8.62 | -0.17 | 8.63 | -0.16 |
| 600 | 8.69 | -0.25 | 8.71 | -0.23 | 8.71 | -0.23 | 8.71 | -0.23 |
| 500 | 8.83 | -0.20 | 8.85 | -0.18 | 8.85 | -0.18 | 8.85 | -0.18 |
| 400 | 8.94 | 0.46 | 8.95 | 0.47 | 8.95 | 0.47 | 8.96 | 0.48 |
| 300 | 9.10 | 1.18 | 9.09 | 1.17 | 9.10 | 1.18 | 9.11 | 1.19 |
| 200 | 9.20 | 0.95 | 9.21 | 0.96 | 9.21 | 0.96 | 9.21 | 0.96 |
| 100 | 9.35 | 0.69 | 9.36 | 0.70 | 9.35 | 0.69 | 9.35 | 0.69 |
| 32 | 9.50 | 0.55 | 9.51 | 0.56 | 9.50 | 0.55 | 9.51 | 0.56 |
| 8 | 9.63 | 0.58 | 9.64 | 0.59 | 9.63 | 0.58 | 9.64 | 0.59 |
| 2 | 9.77 | 0.70 | 9.77 | 0.70 | 9.77 | 0.70 | 9.78 | 0.71 |
| 0 | 10.08 | XXXX | 10.08 | XXXX | 10.09 | XXXX | 10.09 | XXXX |

CASE III GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 742. | 743. | 744. | 745. |
| INTERVAL | 2.00HR | 2.00HR | 2.00HR | 2.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 12.64 | -0.38 | 12.64 | -0.38 | 12.64 | -0.38 | 12.64 | -0.38 |
| -0.125 | 13.36 | 0.01 | 13.35 | -0.00 | 13.35 | -0.00 | 13.36 | 0.01 |
| -0.250 | 13.33 | 0.01 | 13.32 | 0.00 | 13.34 | 0.02 | 13.33 | 0.01 |
| -0.500 | 13.55 | -0.02 | 13.55 | -0.02 | 13.55 | -0.02 | 13.55 | -0.02 |
| -1.000 | 14.24 | 0.02 | 14.24 | 0.02 | 14.24 | 0.02 | 14.24 | 0.02 |
| -2.000 | 15.51 | -0.01 | 15.51 | -0.01 | 15.51 | -0.01 | 15.50 | -0.02 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 9.58 | 5.41 | 9.59 | 5.42 | 9.59 | 5.42 | 9.60 | 5.43 |
| 2 | 6.65 | 4.61 | 6.66 | 4.62 | 6.66 | 4.62 | 6.66 | 4.62 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|------|-------|-------|-------|------|
| S(D) | -0.00 | -0.00 | 0.00 | 0.00 | -0.00 | -0.00 | 0.00 | 0.00 |
| R(N) | 0.02 | XXXX | 0.02 | XXXX | 0.02 | XXXX | 0.02 | XXXX |
| Q(C,0) | -0.76 | XXXX | -0.75 | XXXX | -0.76 | XXXX | -0.76 | XXXX |
| Q(E,0) | 1.24 | XXXX | 1.23 | XXXX | 1.23 | XXXX | 1.23 | XXXX |
| Q(S,0) | -0.45 | XXXX | -0.45 | XXXX | -0.45 | XXXX | -0.45 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 44.16 | XXXX | 44.24 | XXXX | 44.28 | XXXX | 44.32 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| F | 1.90 | XXXX | 1.90 | XXXX | 1.90 | XXXX | 1.90 | XXXX |

CASE III GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 20104 | 20099 | 19274 | 19279 |
| TAPE NO. | 746. | 747. | 748. | 749. |
| INTERVAL | 2.00HR | 2.00HR | 1.00HR | 1.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 2.66 | 0.22 | 2.66 | 0.23 | 2.55 | 0.00 | 2.55 | 0.00 |
| 1000 | -0.16 | -2.65 | 0.19 | -2.29 | -1.45 | -3.21 | -0.89 | -2.65 |
| 900 | -3.18 | -5.20 | -3.08 | -5.10 | -2.06 | -3.46 | -1.98 | -3.38 |
| 800 | -3.90 | -5.51 | -3.85 | -5.45 | -2.42 | -3.42 | -2.40 | -3.40 |
| 700 | -4.21 | -5.34 | -4.18 | -5.31 | -2.67 | -3.26 | -2.66 | -3.25 |
| 600 | -4.38 | -5.07 | -4.35 | -5.05 | -2.84 | -2.86 | -2.84 | -2.86 |
| 500 | -4.45 | -4.66 | -4.43 | -4.64 | -2.96 | -2.32 | -2.96 | -2.32 |
| 400 | -4.48 | -4.03 | -4.46 | -4.01 | -3.05 | -1.65 | -3.05 | -1.65 |
| 300 | -4.44 | -3.05 | -4.43 | -3.04 | -3.08 | -0.79 | -3.08 | -0.79 |
| 200 | -4.32 | -2.33 | -4.31 | -2.32 | -3.05 | -0.15 | -3.05 | -0.15 |
| 100 | -4.05 | -2.04 | -4.04 | -2.03 | -2.90 | -0.19 | -2.90 | -0.19 |
| 32 | -3.56 | -2.06 | -3.55 | -2.05 | -2.58 | -0.71 | -2.58 | -0.71 |
| 8 | -2.91 | -2.16 | -2.91 | -2.16 | -2.12 | -1.22 | -2.12 | -1.22 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|------|-------|------|
| GEO | 17.50 | -0.02 | 17.50 | -0.02 | 17.53 | 0.01 | 17.53 | 0.01 |
| 1000 | 18.31 | 4.33 | 18.25 | 4.27 | 16.15 | 2.58 | 16.67 | 3.10 |
| 900 | 18.14 | 3.66 | 18.17 | 3.69 | 16.67 | 2.82 | 16.81 | 2.96 |
| 800 | 17.63 | 2.65 | 17.65 | 2.67 | 16.67 | 2.53 | 16.73 | 2.59 |
| 700 | 17.13 | 1.63 | 17.14 | 1.64 | 16.48 | 2.04 | 16.51 | 2.07 |
| 600 | 16.63 | 0.63 | 16.65 | 0.65 | 16.18 | 1.45 | 16.20 | 1.47 |
| 500 | 16.14 | -0.37 | 16.15 | -0.35 | 15.80 | 0.78 | 15.82 | 0.80 |
| 400 | 15.60 | -1.23 | 15.61 | -1.22 | 15.34 | 0.19 | 15.35 | 0.20 |
| 300 | 15.00 | -0.37 | 15.01 | -0.36 | 14.78 | 0.20 | 14.79 | 0.21 |
| 200 | 14.22 | 0.72 | 14.22 | 0.72 | 14.03 | 0.81 | 14.03 | 0.81 |
| 100 | 13.06 | 1.86 | 13.06 | 1.86 | 12.89 | 1.89 | 12.89 | 1.89 |
| 32 | 11.28 | 3.33 | 11.27 | 3.32 | 11.13 | 3.27 | 11.13 | 3.28 |
| 8 | 9.14 | 5.04 | 9.10 | 5.00 | 9.02 | 4.27 | 9.02 | 4.27 |

CASE III GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 746. | 747. | 748. | 749. |
| INTERVAL | 2.00HR | 2.00HR | 1.00HR | 1.00HR |

AIR TEMPERATURE (DEG C)

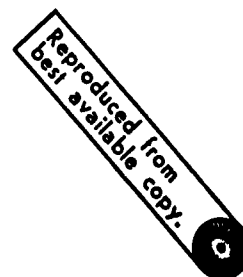
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 10.36 | 2.41 | 10.86 | 2.41 | 9.76 | 1.46 | 9.76 | 1.46 |
| 900 | 11.41 | 2.46 | 11.42 | 2.47 | 10.77 | 1.99 | 10.79 | 2.01 |
| 800 | 11.57 | 2.17 | 11.58 | 2.13 | 11.24 | 1.97 | 11.25 | 1.98 |
| 700 | 11.67 | 1.70 | 11.69 | 1.72 | 11.56 | 1.81 | 11.56 | 1.81 |
| 600 | 11.71 | 1.23 | 11.71 | 1.23 | 11.75 | 1.50 | 11.75 | 1.50 |
| 500 | 11.75 | 0.76 | 11.74 | 0.75 | 11.92 | 1.18 | 11.93 | 1.19 |
| 400 | 11.76 | 0.66 | 11.76 | 0.66 | 12.04 | 1.04 | 12.03 | 1.03 |
| 300 | 11.76 | 0.76 | 11.76 | 0.76 | 12.12 | 0.57 | 12.12 | 0.57 |
| 200 | 11.73 | -0.03 | 11.73 | -0.03 | 12.16 | -0.26 | 12.15 | -0.27 |
| 100 | 11.71 | -0.89 | 11.71 | -0.89 | 12.19 | -1.07 | 12.19 | -1.07 |
| 32 | 11.58 | -1.57 | 11.58 | -1.57 | 12.07 | -1.68 | 12.07 | -1.68 |
| 8 | 11.54 | -1.78 | 11.54 | -1.78 | 11.99 | -1.93 | 11.99 | -1.93 |
| 2 | 11.39 | -1.96 | 11.39 | -1.96 | 11.79 | -2.16 | 11.79 | -2.16 |
| 0 | 11.04 | XXXX | 11.04 | XXXX | 11.37 | XXXX | 11.36 | XXXX |

VAPOR PRESSURE (MB)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|------|-------|------|-------|
| 1000 | 8.25 | -0.07 | 8.26 | -0.06 | 7.91 | -0.05 | 7.92 | -0.04 |
| 900 | 8.39 | -0.09 | 8.38 | -0.10 | 8.05 | -0.07 | 8.05 | -0.07 |
| 800 | 8.48 | -0.15 | 8.48 | -0.15 | 8.13 | -0.15 | 8.14 | -0.14 |
| 700 | 8.63 | -0.16 | 8.63 | -0.16 | 8.26 | -0.18 | 8.27 | -0.17 |
| 600 | 8.72 | -0.22 | 8.72 | -0.22 | 8.34 | -0.26 | 8.34 | -0.26 |
| 500 | 8.85 | -0.18 | 8.86 | -0.17 | 8.46 | -0.24 | 8.46 | -0.24 |
| 400 | 8.96 | 0.48 | 8.96 | 0.48 | 8.56 | 0.32 | 8.56 | 0.32 |
| 300 | 9.01 | 1.09 | 9.09 | 1.17 | 8.69 | 0.91 | 8.68 | 0.90 |
| 200 | 9.21 | 0.96 | 9.22 | 0.97 | 8.79 | 0.70 | 8.70 | 0.61 |
| 100 | 9.36 | 0.70 | 9.36 | 0.70 | 8.94 | 0.47 | 8.95 | 0.48 |
| 32 | 9.51 | 0.56 | 9.51 | 0.56 | 9.11 | 0.37 | 9.10 | 0.36 |
| 8 | 9.64 | 0.59 | 9.65 | 0.60 | 9.26 | 0.43 | 9.26 | 0.43 |
| 2 | 9.78 | 0.71 | 9.78 | 0.71 | 9.44 | 0.59 | 9.44 | 0.59 |
| 0 | 10.09 | XXXX | 10.09 | XXXX | 9.81 | XXXX | 9.82 | XXXX |

CASE III GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES



| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 746. | 747. | 748. | 749. |
| INTERVAL | 2.00HR | 2.00HR | 1.00HR | 1.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 12.63 | -0.39 | 12.64 | -0.38 | 13.01 | -0.17 | 13.01 | -0.17 |
| -0.125 | 13.36 | 0.01 | 13.36 | 0.01 | 13.41 | -0.02 | 13.40 | -0.03 |
| -0.250 | 13.33 | 0.01 | 13.32 | 0.00 | 13.31 | -0.00 | 13.31 | -0.00 |
| -0.500 | 13.55 | -0.02 | 13.55 | -0.02 | 13.55 | -0.01 | 13.55 | -0.01 |
| -1.000 | 14.24 | 0.02 | 14.24 | 0.02 | 14.24 | 0.01 | 14.24 | 0.01 |
| -2.000 | 15.51 | -0.01 | 15.51 | -0.01 | 15.50 | -0.02 | 15.50 | -0.02 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 9.60 | 5.43 | 9.60 | 5.43 | 9.27 | 4.45 | 9.27 | 4.45 |
| 2 | 6.67 | 4.63 | 6.67 | 4.63 | 6.26 | 3.44 | 6.26 | 3.44 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|------|-------|------|-------|------|
| S(D) | -0.00 | -0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| R(N) | 0.02 | XXXX | 0.02 | XXXX | 0.04 | XXXX | 0.03 | XXXX |
| Q(C,0) | -0.76 | XXXX | -0.76 | XXXX | -0.95 | XXXX | -0.95 | XXXX |
| Q(E,0) | 1.23 | XXXX | 1.23 | XXXX | 1.46 | XXXX | 1.46 | XXXX |
| Q(S,0) | -0.45 | XXXX | -0.45 | XXXX | -0.47 | XXXX | -0.47 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 44.34 | XXXX | 44.36 | XXXX | 41.18 | XXXX | 41.16 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100.

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 1.90 | XXXX | 1.90 | XXXX | 0.90 | XXXX | 0.10 | XXXX |

CASE III

GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 19269 | 19284 | 19284 | 19279 |
| TAPE NO. | 750. | 751. | 752. | 753. |
| INTERVAL | 1.00HR | 1.00HR | 1.00HR | 1.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | 2.55 | 0.00 | 2.55 | 0.00 | 2.55 | 0.00 | 2.55 | 0.00 |
| 1000 | -0.44 | -2.20 | -0.08 | -1.84 | 0.21 | -1.55 | 0.45 | -1.30 |
| 900 | -1.91 | -3.31 | -1.84 | -3.24 | -1.80 | -3.20 | -1.76 | -3.16 |
| 800 | -2.39 | -3.39 | -2.37 | -3.37 | -2.35 | -3.35 | -2.34 | -3.34 |
| 700 | -2.66 | -3.25 | -2.65 | -3.24 | -2.60 | -3.19 | -2.64 | -3.23 |
| 600 | -2.84 | -2.86 | -2.83 | -2.85 | -2.83 | -2.85 | -2.83 | -2.85 |
| 500 | -2.96 | -2.32 | -2.95 | -2.31 | -2.96 | -2.32 | -2.95 | -2.31 |
| 400 | -3.05 | -1.65 | -3.05 | -1.65 | -3.05 | -1.65 | -3.05 | -1.65 |
| 300 | -3.08 | -0.79 | -3.08 | -0.79 | -3.08 | -0.79 | -3.08 | -0.79 |
| 200 | -3.05 | -0.15 | -3.05 | -0.15 | -3.05 | -0.15 | -3.05 | -0.15 |
| 100 | -2.89 | -0.18 | -2.90 | -0.19 | -2.90 | -0.19 | -2.90 | -0.19 |
| 32 | -2.58 | -0.71 | -2.58 | -0.71 | -2.58 | -0.71 | -2.58 | -0.71 |
| 8 | -2.13 | -1.22 | -2.13 | -1.22 | -2.13 | -1.22 | -2.12 | -1.22 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|------|-------|------|-------|------|-------|------|
| GEO | 17.53 | 0.01 | 17.53 | 0.01 | 17.53 | 0.01 | 17.53 | 0.01 |
| 1000 | 17.05 | 3.48 | 17.31 | 3.74 | 17.49 | 3.92 | 17.61 | 4.04 |
| 900 | 16.92 | 3.07 | 17.01 | 3.16 | 17.08 | 3.23 | 17.13 | 3.28 |
| 800 | 16.79 | 2.65 | 16.83 | 2.69 | 16.86 | 2.72 | 16.89 | 2.75 |
| 700 | 16.53 | 2.09 | 16.56 | 2.12 | 16.57 | 2.13 | 16.59 | 2.15 |
| 600 | 16.21 | 1.48 | 16.22 | 1.49 | 16.23 | 1.50 | 16.24 | 1.51 |
| 500 | 15.82 | 0.80 | 15.83 | 0.81 | 15.83 | 0.81 | 15.84 | 0.82 |
| 400 | 15.35 | 0.20 | 15.36 | 0.21 | 15.36 | 0.21 | 15.36 | 0.21 |
| 300 | 14.79 | 0.21 | 14.79 | 0.21 | 14.80 | 0.22 | 14.80 | 0.22 |
| 200 | 14.04 | 0.82 | 14.03 | 0.81 | 14.04 | 0.82 | 14.04 | 0.82 |
| 100 | 12.89 | 1.89 | 12.89 | 1.89 | 12.89 | 1.89 | 12.89 | 1.89 |
| 32 | 11.12 | 3.27 | 11.13 | 3.28 | 11.13 | 3.28 | 11.13 | 3.28 |
| 8 | 9.02 | 4.27 | 9.02 | 4.27 | 9.02 | 4.27 | 9.03 | 4.28 |

CASE III GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 750. 1.00HR | | 751. 1.00HR | | 752. 1.00HR | | 753. 1.00HR | |
|-------------------------|----------------|-------|----------------|-------|----------------|-------|----------------|-------|
| AIR TEMPERATURE (DEG C) | | | | | | | | |
| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 9.77 | 1.47 | 9.77 | 1.47 | 9.78 | 1.48 | 9.78 | 1.48 |
| 900 | 10.78 | 2.00 | 10.79 | 2.01 | 10.79 | 2.01 | 10.79 | 2.01 |
| 800 | 11.24 | 1.97 | 11.25 | 1.98 | 11.25 | 1.98 | 11.26 | 1.99 |
| 700 | 11.56 | 1.81 | 11.56 | 1.81 | 11.56 | 1.81 | 11.56 | 1.81 |
| 600 | 11.76 | 1.51 | 11.76 | 1.51 | 11.76 | 1.51 | 11.75 | 1.50 |
| 500 | 11.92 | 1.18 | 11.92 | 1.18 | 11.93 | 1.19 | 11.92 | 1.18 |
| 400 | 12.04 | 1.04 | 12.04 | 1.04 | 12.04 | 1.04 | 12.05 | 1.05 |
| 300 | 12.12 | 0.57 | 12.12 | 0.57 | 12.11 | 0.56 | 12.12 | 0.57 |
| 200 | 12.16 | -0.26 | 12.15 | -0.27 | 12.16 | -0.26 | 12.15 | -0.27 |
| 100 | 12.19 | -1.07 | 12.19 | -1.07 | 12.20 | -1.06 | 12.18 | -1.08 |
| 32 | 12.06 | -1.69 | 12.06 | -1.69 | 12.06 | -1.69 | 12.07 | -1.68 |
| 8 | 12.02 | -1.90 | 11.99 | -1.93 | 12.02 | -1.90 | 11.99 | -1.93 |
| 2 | 11.81 | -2.14 | 11.78 | -2.17 | 11.80 | -2.15 | 11.78 | -2.17 |
| 0 | 11.36 | XXXX | 11.35 | XXXX | 11.35 | XXXX | 11.35 | XXXX |

| VAPOR PRESSURE (MM) | | | | | | | | |
|---------------------|------|-------|------|-------|------|-------|------|-------|
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 7.94 | -0.02 | 7.94 | -0.02 | 7.95 | -0.01 | 7.95 | -0.01 |
| 900 | 8.05 | -0.07 | 8.05 | -0.07 | 8.06 | -0.06 | 8.05 | -0.07 |
| 800 | 8.14 | -0.14 | 8.14 | -0.14 | 8.14 | -0.14 | 8.14 | -0.14 |
| 700 | 8.27 | -0.17 | 8.28 | -0.16 | 8.27 | -0.17 | 8.26 | -0.18 |
| 600 | 8.34 | -0.26 | 8.35 | -0.25 | 8.35 | -0.25 | 8.34 | -0.26 |
| 500 | 8.47 | -0.23 | 8.47 | -0.23 | 8.47 | -0.23 | 8.46 | -0.24 |
| 400 | 8.56 | 0.32 | 8.56 | 0.32 | 8.56 | 0.32 | 8.55 | 0.31 |
| 300 | 8.69 | 0.91 | 8.68 | 0.90 | 8.68 | 0.90 | 8.69 | 0.91 |
| 200 | 8.79 | 0.70 | 8.80 | 0.71 | 8.80 | 0.71 | 8.79 | 0.70 |
| 100 | 8.95 | 0.48 | 8.95 | 0.48 | 8.95 | 0.48 | 8.94 | 0.47 |
| 32 | 9.11 | 0.37 | 9.11 | 0.37 | 9.11 | 0.37 | 9.11 | 0.37 |
| 8 | 9.26 | 0.43 | 9.26 | 0.43 | 9.26 | 0.43 | 9.25 | 0.42 |
| 2 | 9.44 | 0.59 | 9.44 | 0.59 | 9.44 | 0.59 | 9.44 | 0.59 |
| 0 | 9.82 | XXXX | 9.82 | XXXX | 9.81 | XXXX | 9.82 | XXXX |

CASE III GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 750. | 751. | 752. | 753. |
| INTERVAL | 1.00HR | 1.00HR | 1.00HR | 1.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.000 | 13.01 | -0.17 | 13.02 | -0.16 | 13.01 | -0.17 | 13.01 | -0.17 |
| -0.125 | 13.40 | -0.03 | 13.41 | -0.02 | 13.41 | -0.02 | 13.41 | -0.02 |
| -0.250 | 13.32 | 0.01 | 13.32 | 0.01 | 13.32 | 0.01 | 13.31 | -0.00 |
| -0.500 | 13.55 | -0.01 | 13.54 | -0.02 | 13.55 | -0.01 | 13.56 | -0.00 |
| -1.000 | 14.24 | 0.01 | 14.24 | 0.01 | 14.24 | 0.01 | 14.24 | 0.01 |
| -2.000 | 15.51 | -0.01 | 15.50 | -0.02 | 15.51 | -0.01 | 15.51 | -0.01 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 9.27 | 4.45 | 9.27 | 4.45 | 9.27 | 4.45 | 9.27 | 4.45 |
| 2 | 6.25 | 3.43 | 6.26 | 3.44 | 6.26 | 3.44 | 6.26 | 3.44 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|------|-------|------|
| S(D) | -0.00 | -0.00 | -0.00 | -0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| R(N) | 0.04 | XXXX | 0.03 | XXXX | 0.03 | XXXX | 0.04 | XXXX |
| Q(C,0) | -0.96 | XXXX | -0.95 | XXXX | -0.95 | XXXX | -0.96 | XXXX |
| Q(E,0) | 1.46 | XXXX | 1.46 | XXXX | 1.46 | XXXX | 1.46 | XXXX |
| Q(S,0) | -0.47 | XXXX | -0.47 | XXXX | -0.47 | XXXX | -0.47 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 41.16 | XXXX | 41.20 | XXXX | 41.20 | XXXX | 41.18 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 0.90 | XXXX | 0.90 | XXXX | 1.10 | XXXX | 1.00 | XXXX |

ROOT MEAN SQUARES OF THE DIFFERENCES BETWEEN
THE PREDICTED AND OBSERVED ATMOSPHERIC COLUMNS

CASE III

12.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 4.04 | 8.38 | 10.59 | 10.64 | 13.84 |
| PERSIST DIFF | | 3.10 | 7.68 | 1.88 | 2.48 | 0.23 |
| GPAC DIFF | 730. | 7.01 | 13.69 | 2.30 | 0.92 | 0.57 |
| GPAC DIFF | 731. | 5.67 | 12.19 | 2.39 | 1.08 | 0.53 |
| GPAC DIFF | 732. | 4.99 | 11.52 | 2.45 | 1.17 | 0.51 |
| GPAC DIFF | 733. | 4.60 | 11.16 | 2.49 | 1.23 | 0.50 |
| GPAC DIFF | 734. | 4.35 | 10.94 | 2.52 | 1.27 | 0.50 |
| GPAC DIFF | 735. | 4.18 | 10.78 | 2.54 | 1.30 | 0.48 |

CASE III

6.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 3.83 | 12.93 | 10.15 | 9.74 | 13.69 |
| PERSIST DIFF | | 3.86 | 2.05 | 2.41 | 1.69 | 0.52 |
| GPAC DIFF | 736. | 10.59 | 6.02 | 1.50 | 0.87 | 0.10 |
| GPAC DIFF | 737. | 9.64 | 5.62 | 1.55 | 0.88 | 0.10 |
| GPAC DIFF | 738. | 9.14 | 5.39 | 1.58 | 0.91 | 0.09 |
| GPAC DIFF | 739. | 8.84 | 5.26 | 1.60 | 0.92 | 0.09 |
| GPAC DIFF | 740. | 8.64 | 5.17 | 1.62 | 0.93 | 0.09 |
| GPAC DIFF | 741. | 8.49 | 5.11 | 1.63 | 0.93 | 0.09 |

ROOT MEAN SQUARES OF THE DIFFERENCES BETWEEN
THE PREDICTED AND OBSERVED ATMOSPHERIC COLUMNS

CASE III

2.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 1.61 | 14.18 | 11.23 | 8.67 | 13.86 |
| PERSIST DIFF | | 1.28 | 0.54 | 1.18 | 0.57 | 0.14 |
| GPAC DIFF | 742. | 4.26 | 2.42 | 1.57 | 0.58 | 0.16 |
| GPAC DIFF | 743. | 4.05 | 2.49 | 1.58 | 0.58 | 0.16 |
| GPAC DIFF | 744. | 3.92 | 2.53 | 1.58 | 0.58 | 0.16 |
| GPAC DIFF | 745. | 3.83 | 2.54 | 1.58 | 0.58 | 0.16 |
| GPAC DIFF | 746. | 3.77 | 2.55 | 1.58 | 0.56 | 0.16 |
| GPAC DIFF | 747. | 3.72 | 2.54 | 1.59 | 0.58 | 0.16 |

CASE III

1.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 1.77 | 13.46 | 11.47 | 8.40 | 13.90 |
| PERSIST DIFF | | 0.92 | 1.33 | 0.94 | 0.28 | 0.07 |
| GPAC DIFF | 748. | 2.21 | 2.17 | 1.54 | 0.44 | 0.07 |
| GPAC DIFF | 749. | 2.14 | 2.25 | 1.54 | 0.43 | 0.07 |
| GPAC DIFF | 750. | 2.09 | 2.31 | 1.54 | 0.44 | 0.07 |
| GPAC DIFF | 751. | 2.05 | 2.35 | 1.54 | 0.44 | 0.07 |
| GPAC DIFF | 752. | 2.02 | 2.39 | 1.54 | 0.44 | 0.07 |
| GPAC DIFF | 753. | 2.00 | 2.41 | 1.54 | 0.44 | 0.07 |

CASE IV-A TAPE LOG

| TAPE NO. | FCST INT | SM | KMB DB | SCG | ADV | GEO | REMARKS |
|-------------|-------------|----|-----------|-----|-----|-----|----------|
| 781. | 12.00 | A | V | A | N | O | |
| 782. | 12.00 | A | V | A | N | I | GEO=0.20 |
| 783. | 12.00 | A | V | A | N | I | GEO=0.40 |
| 784. | 12.00 | A | V | A | N | I | GEO=0.60 |
| 785. | 12.00 | A | V | A | N | I | GEO=0.80 |
| 786. | 12.00 | A | V | A | N | I | GEO=1.00 |
| 787. | 6.00 | A | V | A | N | O | |
| 788. | 6.00 | A | V | A | N | I | GEO=0.20 |
| 789. | 6.00 | A | V | A | N | I | GEO=0.40 |
| 790. | 6.00 | A | V | A | N | I | GEO=0.60 |
| 791. | 6.00 | A | V | A | N | I | GEO=0.80 |
| 792. | 6.00 | A | V | A | N | I | GEO=1.00 |
| 793. | 2.00 | A | V | A | N | O | |
| 794. | 2.00 | A | V | A | N | I | GEO=0.20 |
| 795. | 2.00 | A | V | A | N | I | GEO=0.40 |
| 796. | 2.00 | A | V | A | N | I | GEO=0.60 |
| 797. | 2.00 | A | V | A | N | I | GEO=0.80 |
| 798. | 2.00 | A | V | A | N | I | GEO=1.00 |
| 799. | 1.00 | A | V | A | N | O | |
| 800. | 1.00 | A | V | A | N | I | GEO=0.20 |
| 801. | 1.00 | A | V | A | N | I | GEO=0.40 |
| 802. | 1.00 | A | V | A | N | I | GEO=0.60 |
| 803. | 1.00 | A | V | A | N | I | GEO=0.80 |
| 804. | 1.00 | A | V | A | N | I | GEO=1.00 |

CASE IV-A INITIAL CONDITIONS - 0000L 26 FEBRUARY 1962
(PAGE 1 OF 2 PAGES)

SOIL PARAMETERS

| LEVEL (M) | TEMP (DEG C) | | |
|--------------|-----------------|------------------------------|---|
| 0.000 | 14.50 | LAMBDA | $= 0.59 \text{ CAL/CM}^3 \text{ DEG}$ |
| -0.125 | 13.40 | MU/LAMBDA | $= 0.0037 \text{ CM}^2/\text{SEC}$ |
| -0.250 | 12.85 | (MU X LAMBDA) ^{1/2} | $= 0.036 \text{ CAL}^2/\text{CM}^4 \text{ DEG SEC}^2$ |
| -0.500 | 13.08 | Z(0) | $= 2.0 \text{ CM}$ |
| -1.000 | 13.90 | S(0) | $= 0.0004 \text{ CAL/CM}^2 \text{ SEC MB}$ |
| -2.000 | 15.63 | G | $= 3500 \text{ CM}^2 \text{ SEC DEG/CAL}$ |

RADIATION PARAMETERS

| | | | |
|---------------------|------------------|-------------|-----------------------------|
| LOCAL TIME = | 0000 | TURBIDITY = | 0.38 |
| DELTA | = -8.80 DEG | PSI = | 1.020 |
| R X 10 ⁵ | = 2.20 DEG C/SEC | F(C) = | 0.20 |
| CLOUD CLASS = | 3 | ALBEDO = | 0.25 |
| E*(8) | = 15.62 MB | M | = 0.750 |
| EPSILON | = 0.950 | N | = 0.0270 MB ^{-1/2} |
| PHI | = 32.5 DEG | H | = -180.0 DEG |

HORIZONTAL GRADIENTS

| LEVEL (M) | DE/DX (MB/100-KM) | DE/DY | DT/DX (DEG C/100-KM) | DT/DY |
|--------------|----------------------|-------|-------------------------|-------|
| 200 | 1.83 | -2.05 | 1.44 | -2.51 |
| 600 | 1.83 | -1.27 | 1.30 | -2.12 |
| 1000 | 1.83 | -0.50 | 1.15 | -1.72 |

CASE IV-A INITIAL CONDITIONS - 0000L 26 FEBRUARY 1962
(PAGE 2 OF 2 PAGES)

| LEVEL (M) | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|--------------|--------------------------------|-------|------------------------|------------------------|
| 1000 | 8.28 | 5.20 | 13.34 | 6.94 |
| 900 | 8.20 | 7.32 | 14.07 | 7.18 |
| 800 | 8.15 | 9.45 | 14.80 | 7.64 |
| 700 | 8.09 | 11.59 | 15.53 | 8.32 |
| 600 | 7.95 | 13.70 | 16.27 | 8.99 |
| 500 | 7.65 | 15.85 | 17.00 | 13.25 |
| 400 | 7.13 | 17.90 | 17.56 | 13.72 |
| 300 | 6.10 | 18.45 | 18.00 | 14.21 |
| 200 | 4.40 | 17.30 | 18.52 | 14.69 |
| 100 | 1.90 | 13.70 | 18.40 | 15.17 |
| 32 | -0.10 | 9.20 | 18.45 | 15.49 |
| 8 | -0.25 | 5.10 | 18.35 | 15.62 |

ADVECTION TERMS
-1 5
(SEC X 10)

| LEVEL (M) | ALPHA(1) | BETA(1) | ALPHA(2) | BETA(2) |
|--------------|----------|---------|----------|---------|
| 200 | -2.35 | 1.48 | 0.00 | 1.80 |
| 600 | -0.43 | 1.75 | 0.00 | 1.51 |
| 1000 | 1.48 | 2.02 | 0.00 | 1.23 |

SURFACE CONTOUR GRADIENTS

| PREDICTION INTERVAL (HR) | AZIMUTH (DEG FROM NORTH) | MAGNITUDE (FT/100-KM) |
|--------------------------------|-----------------------------|--------------------------|
| 0 | 112.90 | 14.91 |
| 1 | 66.80 | 9.13 |
| 2 | 33.10 | 16.74 |
| 6 | 336.00 | 49.31 |
| 12 | 323.00 | 53.26 |

CASE IV-A COMPARISON DATA FROM DALLAS (1 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|-------|------------------------|------------------------|
| GEO | -1.39 | 3.25 | | |
| 1000 | 8.25 | 4.25 | 13.50 | 6.09 |
| 900 | 8.30 | 6.45 | 14.36 | 6.29 |
| 800 | 8.39 | 8.65 | 15.24 | 6.76 |
| 700 | 8.44 | 10.85 | 16.10 | 7.48 |
| 600 | 8.50 | 13.05 | 16.97 | 8.18 |
| 500 | 8.59 | 15.30 | 17.85 | 13.08 |
| 400 | 8.07 | 16.87 | 18.47 | 13.56 |
| 300 | 6.60 | 16.42 | 18.70 | 14.06 |
| 200 | 4.80 | 14.45 | 19.03 | 14.54 |
| 100 | 2.60 | 11.45 | 19.12 | 15.03 |
| 32 | 1.08 | 8.30 | 19.28 | 15.36 |
| 8 | 0.30 | 5.40 | 19.43 | 15.48 |
| 2 | XXXX | XXXX | 19.50 | 15.51 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| C.000 | 14.95 |
| -0.125 | 13.46 |
| -0.250 | 12.92 |
| -0.500 | 13.08 |
| -1.000 | 13.90 |
| -2.000 | 15.63 |

| | |
|---|------|
| 8 | 5.41 |
| 2 | 1.45 |

SURFACE SHEAR STRESS
(DYNES/CM SQ.)X10
TAU= XXXX

SURFACE ENERGY TERMS (LY/SEC)X1000

| | | | |
|---------|------|---------|------|
| S(D)= | 0.00 | Q(E,0)= | XXXX |
| R(N)= | XXXX | Q(S,0)= | XXXX |
| Q(C,0)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

E= XXXX

CASE IV-A COMPARISON DATA FROM DALLAS (2 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|-------|------------------------|------------------------|
| GEO | -5.34 | 3.48 | | |
| 1000 | 8.30 | 2.90 | 13.55 | 5.23 |
| 900 | 8.46 | 5.00 | 14.50 | 5.41 |
| 800 | 8.63 | 7.05 | 15.45 | 5.87 |
| 700 | 8.80 | 9.10 | 16.40 | 6.63 |
| 600 | 8.96 | 11.08 | 17.35 | 7.38 |
| 500 | 9.08 | 13.25 | 18.31 | 12.91 |
| 400 | 8.35 | 14.84 | 18.96 | 13.40 |
| 300 | 6.80 | 14.60 | 19.00 | 13.91 |
| 200 | 5.00 | 12.65 | 19.15 | 14.40 |
| 100 | 3.18 | 9.65 | 19.38 | 14.89 |
| 32 | 1.95 | 6.80 | 19.60 | 15.23 |
| 8 | 1.00 | 3.70 | 19.70 | 15.35 |
| 2 | XXXX | XXXX | 19.73 | 15.38 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| C.000 | 15.38 |
| -0.125 | 13.58 |
| -0.250 | 12.97 |
| -0.500 | 13.07 |
| -1.000 | 13.90 |
| -2.000 | 15.63 |

| | |
|---|------|
| 8 | 3.83 |
| 2 | 0.42 |

SURFACE SHEAR STRESS
(DYNES/CM SQ.)X10
TAU= XXXX

SURFACE ENERGY TERMS (LY/SEC)X1000

| | | | |
|---------|------|---------|------|
| S(D)= | 0.00 | Q(E,0)= | XXXX |
| R(N)= | XXXX | Q(S,0)= | XXXX |
| Q(C,0)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

E= XXXX

CASE IV-A COMPARISON DATA FROM DALLAS (6 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|-------|------------------------|------------------------|
| GEO | -17.17 | -7.66 | | |
| 1000 | 7.00 | -6.71 | 12.09 | 1.80 |
| 900 | 7.08 | -7.15 | 12.61 | 1.85 |
| 800 | 7.13 | -7.55 | 13.14 | 2.33 |
| 700 | 7.22 | -7.98 | 13.65 | 3.25 |
| 600 | 7.29 | -8.39 | 14.19 | 4.16 |
| 500 | 7.36 | -8.80 | 14.71 | 12.24 |
| 400 | 7.49 | -9.15 | 15.15 | 12.76 |
| 300 | 7.65 | -8.32 | 15.52 | 13.29 |
| 200 | 7.40 | -6.50 | 16.10 | 13.81 |
| 100 | 6.10 | -4.49 | 16.41 | 14.34 |
| 32 | 4.00 | -2.70 | 15.07 | 14.69 |
| 8 | 1.75 | -1.45 | 14.63 | 14.82 |
| 2 | XXXX | XXXX | 14.55 | 14.85 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| 0.000 | 15.07 |
| -0.125 | 14.10 |
| -0.250 | 13.20 |
| -0.500 | 13.13 |
| -1.000 | 13.90 |
| -2.000 | 15.63 |

| | |
|---|------|
| 8 | 2.27 |
| 2 | 0.90 |

SURFACE SHEAR STRESS
(DYNES/CM SQ.)X10
TAU= XXXX

SURFACE ENERGY TERMS (LY/SEC)X1000

| | | | |
|---------|------|---------|------|
| S(D)= | 0.00 | Q(E,0)= | XXXX |
| R(N)= | XXXX | Q(S,0)= | XXXX |
| Q(C,0)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.)X100

F= XXXX

CASE IV-A COMPARISON DATA FROM DALLAS (12 HOUR)

| | WIND COMPONENTS U (M/SEC) V | | TEMPERATURE (DEG C) | VAPOR PRESSURE (MB) |
|------|--------------------------------|--------|------------------------|------------------------|
| GEO | -16.36 | -12.06 | | |
| 1000 | 1.85 | -4.18 | 8.70 | 4.12 |
| 900 | 1.43 | -5.80 | 7.70 | 3.49 |
| 800 | 1.00 | -7.45 | 6.66 | 3.50 |
| 700 | 0.58 | -9.10 | 5.65 | 3.91 |
| 600 | 0.14 | -10.70 | 4.65 | 4.43 |
| 500 | -0.40 | -12.35 | 3.63 | 8.55 |
| 400 | -0.10 | -13.25 | 1.89 | 8.88 |
| 300 | 0.90 | -12.80 | 1.62 | 9.22 |
| 200 | 1.70 | -11.90 | 1.71 | 9.56 |
| 100 | 2.10 | -10.90 | 1.93 | 9.89 |
| 32 | 1.89 | -9.30 | 2.53 | 10.12 |
| 8 | 0.80 | -5.40 | 2.87 | 10.20 |
| 2 | XXXX | XXXX | 3.00 | 10.22 |
| 0 | XXXX | XXXX | XXXX | XXXX |

SOIL TEMPERATURE (DEG C)

WIND SPEED (M/SEC)

| | |
|--------|-------|
| 0.000 | 10.50 |
| -0.125 | 13.22 |
| -0.250 | 13.41 |
| -0.500 | 13.22 |
| -1.000 | 13.88 |
| -2.000 | 15.63 |

| | |
|---|------|
| 8 | 5.46 |
| 2 | 1.92 |

SURFACE SHEAR STRESS
(DYNES/CM² SQ.) X10
TAU= XXXX

SURFACE ENERGY TERMS (LY/SFC) X1000

| | | | |
|---------|------|---------|------|
| S(D)= | 3.00 | Q(E,C)= | XXXX |
| R(N)= | XXXX | Q(S,O)= | XXXX |
| Q(C,O)= | XXXX | | |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ.) X100

E= XXXX

CASE IV-A GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|---------|---------|---------|---------|
| K(CM SQ/SEC) | 21459 | 20484 | 20109 | 19974 |
| TAPE NO. | 781. | 782. | 783. | 784. |
| INTERVAL | 12.00HR | 12.00HR | 12.00HR | 12.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|--------|-------|--------|--------|--------|--------|--------|--------|
| GEO | -16.34 | 0.02 | -16.33 | 0.03 | -16.33 | 0.03 | -16.33 | 0.03 |
| 1000 | -6.56 | -8.41 | -9.07 | -10.92 | -10.93 | -12.78 | -12.09 | -13.94 |
| 900 | -6.59 | -8.02 | -6.88 | -8.31 | -7.38 | -8.81 | -7.70 | -9.14 |
| 800 | -6.42 | -7.42 | -6.29 | -7.29 | -6.48 | -7.48 | -6.60 | -7.60 |
| 700 | -6.21 | -6.79 | -5.93 | -6.51 | -6.01 | -6.59 | -6.05 | -6.63 |
| 600 | -5.99 | -6.13 | -5.64 | -5.78 | -5.67 | -5.81 | -5.67 | -5.81 |
| 500 | -5.74 | -5.34 | -5.36 | -4.96 | -5.35 | -4.95 | -5.33 | -4.97 |
| 400 | -5.47 | -5.37 | -5.08 | -4.98 | -5.04 | -4.94 | -5.01 | -4.9 |
| 300 | -5.17 | -6.07 | -4.77 | -5.67 | -4.72 | -5.62 | -4.67 | -5.57 |
| 200 | -4.79 | -6.49 | -4.39 | -6.09 | -4.34 | -6.04 | -4.28 | -5.98 |
| 100 | -4.25 | -6.35 | -3.88 | -5.98 | -3.82 | -5.92 | -3.76 | -5.86 |
| 32 | -3.55 | -5.44 | -3.22 | -5.11 | -3.16 | -5.06 | -3.11 | -5.01 |
| 8 | -2.84 | -3.64 | -2.57 | -3.37 | -2.52 | -3.32 | -2.48 | -3.28 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|--------|-------|--------|-------|--------|-------|--------|-------|
| GEO | -12.05 | 0.01 | -12.05 | 0.01 | -12.05 | 0.01 | -12.05 | 0.01 |
| 1000 | -12.70 | -8.52 | -10.01 | -5.83 | -9.54 | -5.36 | -9.57 | -5.39 |
| 900 | -14.11 | -8.31 | -12.31 | -6.51 | -11.69 | -5.89 | -11.42 | -5.62 |
| 800 | -14.72 | -7.27 | -13.31 | -5.86 | -12.78 | -5.33 | -12.48 | -5.03 |
| 700 | -15.04 | -5.94 | -13.86 | -4.76 | -13.35 | -4.25 | -13.12 | -4.02 |
| 600 | -15.19 | -4.49 | -14.16 | -3.46 | -13.74 | -3.04 | -13.48 | -2.78 |
| 500 | -15.21 | -2.86 | -14.29 | -1.94 | -13.92 | -1.57 | -13.67 | -1.32 |
| 400 | -15.12 | -1.87 | -14.30 | -1.05 | -13.96 | -0.71 | -13.73 | -0.48 |
| 300 | -14.88 | -2.08 | -14.14 | -1.34 | -13.84 | -1.04 | -13.63 | -0.83 |
| 200 | -14.43 | -2.53 | -13.77 | -1.87 | -13.49 | -1.59 | -13.31 | -1.41 |
| 100 | -13.49 | -2.59 | -12.92 | -2.02 | -12.67 | -1.77 | -12.52 | -1.62 |
| 32 | -11.82 | -2.52 | -11.36 | -2.06 | -11.14 | -1.84 | -11.01 | -1.71 |
| 8 | -9.63 | -4.23 | -9.26 | -3.86 | -9.09 | -3.69 | -8.98 | -3.58 |

CASE IV-A GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 781. 12.00HR | 782. 12.00HR | 783. 12.00HR | 784. 12.00HR |
|----------------------|-----------------|-----------------|-----------------|-----------------|
|----------------------|-----------------|-----------------|-----------------|-----------------|

AIR TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|------|-------|------|-------|------|-------|------|
| 1000 | 10.55 | 1.85 | 11.99 | 3.29 | 12.58 | 3.88 | 12.90 | 4.20 |
| 900 | 10.26 | 2.56 | 11.45 | 3.75 | 11.95 | 4.25 | 12.21 | 4.51 |
| 800 | 10.11 | 3.45 | 11.21 | 4.55 | 11.66 | 5.00 | 11.90 | 5.24 |
| 700 | 10.04 | 4.39 | 11.06 | 5.41 | 11.50 | 5.85 | 11.72 | 6.07 |
| 600 | 9.96 | 5.31 | 10.95 | 6.30 | 11.37 | 6.72 | 11.59 | 6.94 |
| 500 | 9.95 | 6.32 | 10.90 | 7.27 | 11.31 | 7.68 | 11.52 | 7.89 |
| 400 | 9.93 | 8.04 | 10.86 | 8.97 | 11.26 | 9.37 | 11.47 | 9.58 |
| 300 | 9.94 | 8.32 | 10.84 | 9.22 | 11.24 | 9.62 | 11.44 | 9.82 |
| 200 | 9.9 | 8.22 | 10.83 | 9.12 | 11.21 | 9.50 | 11.41 | 9.70 |
| 100 | 10.00 | 8.07 | 10.86 | 8.93 | 11.25 | 9.32 | 11.45 | 9.52 |
| 32 | 9.98 | 7.45 | 10.84 | 8.31 | 11.22 | 8.69 | 11.42 | 8.89 |
| 8 | 10.04 | 7.17 | 10.91 | 8.04 | 11.29 | 8.42 | 11.49 | 8.62 |
| 2 | 10.05 | 7.05 | 10.91 | 7.91 | 11.29 | 8.29 | 11.48 | 8.48 |
| 0 | 10.07 | XXXX | 10.89 | XXXX | 11.27 | XXXX | 11.46 | XXXX |

VAPOR PRESSURE (MB)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|-------|------|-------|------|-------|------|-------|
| 1000 | 6.83 | 2.71 | 8.14 | 4.02 | 8.85 | 4.73 | 9.25 | 5.13 |
| 900 | 6.71 | 3.22 | 7.86 | 4.37 | 8.46 | 4.97 | 8.81 | 5.32 |
| 800 | 6.68 | 3.18 | 7.76 | 4.26 | 8.32 | 4.82 | 8.65 | 5.15 |
| 700 | 6.74 | 2.83 | 7.77 | 3.86 | 8.32 | 4.41 | 8.63 | 4.72 |
| 600 | 6.76 | 2.33 | 7.77 | 3.34 | 8.31 | 3.88 | 8.61 | 4.18 |
| 500 | 6.83 | -1.72 | 7.84 | -0.71 | 8.36 | -0.19 | 8.65 | 0.10 |
| 400 | 6.90 | -1.98 | 7.90 | -0.98 | 8.41 | -0.47 | 8.71 | -0.17 |
| 300 | 6.99 | -2.23 | 7.99 | -1.23 | 8.52 | -0.70 | 8.80 | -0.42 |
| 200 | 7.11 | -2.45 | 8.09 | -1.47 | 8.61 | -0.95 | 8.90 | -0.66 |
| 100 | 7.31 | -2.58 | 8.31 | -1.58 | 8.83 | -1.06 | 9.12 | -0.77 |
| 32 | 7.44 | -2.68 | 8.43 | -1.69 | 8.95 | -1.17 | 9.24 | -0.88 |
| 8 | 7.61 | -2.59 | 8.60 | -1.60 | 9.11 | -1.09 | 9.41 | -0.79 |
| 2 | 7.74 | -2.48 | 8.73 | -1.49 | 9.24 | -0.98 | 9.53 | -0.69 |
| 0 | 8.17 | XXXX | 9.14 | XXXX | 9.66 | XXXX | 9.94 | XXXX |

CASE IV-A GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| TAPE NO. | 781. | 782. | 783. | 784. |
|----------|---------|---------|---------|---------|
| INTERVAL | 12.00HR | 12.00HR | 12.00HR | 12.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.000 | 11.79 | 1.29 | 12.13 | 1.63 | 12.29 | 1.79 | 12.39 | 1.89 |
| -0.125 | 13.03 | -0.19 | 13.10 | -0.12 | 13.12 | -0.10 | 13.14 | -0.08 |
| -0.250 | 13.15 | -0.26 | 13.16 | -0.25 | 13.16 | -0.25 | 13.16 | -0.25 |
| -0.500 | 13.12 | -0.10 | 13.13 | -0.09 | 13.12 | -0.10 | 13.13 | -0.09 |
| -1.000 | 13.25 | -0.63 | 13.25 | -0.63 | 13.24 | -0.64 | 13.25 | -0.63 |
| -2.000 | -15.64 | -31.27 | -15.64 | -31.27 | -15.64 | -31.27 | -15.64 | -31.27 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|------|------|------|------|------|------|------|
| 8 | 10.06 | 4.60 | 9.62 | 4.16 | 9.44 | 3.98 | 9.33 | 3.87 |
| 2 | 7.77 | 5.85 | 7.38 | 5.46 | 7.23 | 5.31 | 7.15 | 5.23 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| S(D) | 3.18 | 0.18 | 3.18 | 0.18 | 3.18 | 0.18 | 3.18 | 0.18 |
| R(N) | 1.20 | XXXX | 1.19 | XXXX | 1.18 | XXXX | 1.18 | XXXX |
| Q(C,0) | 0.03 | XXXX | -0.01 | XXXX | -0.02 | XXXX | -0.02 | XXXX |
| Q(E,0) | 1.65 | XXXX | 1.55 | XXXX | 1.49 | XXXX | 1.46 | XXXX |
| Q(S,0) | -0.48 | XXXX | -0.35 | XXXX | -0.29 | XXXX | -0.26 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM S')X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 49.30 | XXXX | 45.02 | XXXX | 43.38 | XXXX | 42.38 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 8.90 | XXXX | 8.50 | XXXX | 8.50 | XXXX | 8.20 | XXXX |

CASE IV-A GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|---------|---------|--------|--------|
| K(CM SQ/SEC) | 19750 | 19669 | 18125 | 17609 |
| TAPE NO. | 785. | 786. | 787. | 788. |
| INTERVAL | 12.00HR | 12.00HR | 6.00HR | 6.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|--------|--------|--------|--------|--------|-------|--------|-------|
| GEO | -16.33 | 0.03 | -16.33 | 0.03 | -17.18 | -0.01 | -17.18 | -0.01 |
| 1000 | -12.89 | -14.74 | -13.43 | -15.28 | 6.99 | -0.01 | -1.14 | -8.14 |
| 900 | -7.99 | -9.42 | -8.15 | -9.58 | 7.29 | 0.21 | 4.98 | -2.10 |
| 800 | -6.77 | -7.77 | -6.83 | -7.83 | 7.39 | 0.26 | 6.28 | -0.85 |
| 700 | -6.17 | -6.75 | -6.19 | -6.77 | 7.45 | 0.23 | 6.77 | -0.45 |
| 600 | -5.75 | -5.89 | -5.76 | -5.90 | 7.45 | 0.16 | 6.97 | -0.32 |
| 500 | -5.39 | -4.99 | -5.39 | -4.99 | 7.41 | 0.06 | 7.07 | -0.29 |
| 400 | -5.06 | -4.96 | -5.04 | -4.94 | 7.34 | -0.15 | 7.07 | -0.41 |
| 300 | -4.71 | -5.61 | -4.70 | -5.60 | 7.21 | -0.44 | 7.01 | -0.64 |
| 200 | -4.32 | -6.02 | -4.30 | -6.00 | 6.98 | -0.42 | 6.82 | -0.58 |
| 100 | -3.79 | -5.89 | -3.77 | -5.87 | 6.53 | 0.43 | 6.40 | 0.30 |
| 32 | -3.13 | -5.02 | -3.11 | -5.01 | 5.72 | 1.72 | 5.63 | 1.63 |
| 8 | -2.50 | -3.30 | -2.48 | -3.28 | 4.65 | 2.90 | 4.57 | 2.82 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|--------|-------|--------|-------|--------|-------|--------|-------|
| GEO | -12.05 | 0.01 | -12.05 | 0.01 | -7.66 | -0.01 | -7.66 | -0.01 |
| 1000 | -9.74 | -5.56 | -9.92 | -5.74 | -8.45 | -1.74 | -5.70 | 1.01 |
| 900 | -11.29 | -5.49 | -11.22 | -5.42 | -10.07 | -2.92 | -8.43 | -1.28 |
| 800 | -12.33 | -4.88 | -12.24 | -4.79 | -10.88 | -3.32 | -9.70 | -2.15 |
| 700 | -12.97 | -3.87 | -12.89 | -3.79 | -11.36 | -3.38 | -10.47 | -2.49 |
| 600 | -13.34 | -2.64 | -13.26 | -2.56 | -11.64 | -3.25 | -10.93 | -2.54 |
| 500 | -13.54 | -1.19 | -13.47 | -1.12 | -11.80 | -3.00 | -11.21 | -2.41 |
| 400 | -13.61 | -0.36 | -13.54 | -0.29 | -11.86 | -2.71 | -11.34 | -2.19 |
| 300 | -13.52 | -0.72 | -13.45 | -0.65 | -11.77 | -3.45 | -11.33 | -3.01 |
| 200 | -13.20 | -1.30 | -13.15 | -1.25 | -11.49 | -4.99 | -11.12 | -4.62 |
| 100 | -12.42 | -1.52 | -12.37 | -1.47 | -10.79 | -6.30 | -10.47 | -5.98 |
| 32 | -10.93 | -1.63 | -10.89 | -1.59 | -9.46 | -6.76 | -9.21 | -6.51 |
| 8 | -8.92 | -3.52 | -8.88 | -3.48 | -7.69 | -6.24 | -7.49 | -6.05 |

CASE IV-A GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 785. 12.00HR | | 786. 12.00HR | | 787. 6.00HR | | 788. 6.00HR | |
|-------------------------|-----------------|-------|-----------------|-------|----------------|-------|----------------|-------|
| AIR TEMPERATURE (DEG C) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 13.03 | 4.33 | 13.14 | 4.44 | 15.17 | 3.08 | 16.03 | 3.94 |
| 900 | 12.34 | 4.64 | 12.43 | 4.73 | 14.83 | 2.22 | 15.43 | 2.82 |
| 800 | 12.03 | 5.37 | 12.11 | 5.45 | 14.60 | 1.46 | 15.06 | 1.92 |
| 700 | 11.84 | 6.19 | 11.92 | 6.27 | 14.44 | 0.79 | 14.83 | 1.18 |
| 600 | 11.71 | 7.06 | 11.79 | 7.14 | 14.31 | 0.12 | 14.63 | 0.44 |
| 500 | 11.63 | 8.00 | 11.72 | 8.09 | 14.21 | -0.50 | 14.51 | -0.20 |
| 400 | 11.58 | 9.69 | 11.66 | 9.77 | 14.12 | -1.03 | 14.38 | -0.77 |
| 300 | 11.55 | 9.93 | 11.63 | 10.01 | 14.03 | -1.49 | 14.27 | -1.25 |
| 200 | 11.52 | 9.81 | 11.60 | 9.89 | 13.92 | -2.18 | 14.14 | -1.96 |
| 100 | 11.56 | 9.63 | 11.64 | 9.71 | 13.82 | -2.59 | 14.03 | -2.38 |
| 32 | 11.53 | 9.00 | 11.61 | 9.08 | 13.55 | -1.52 | 13.74 | -1.33 |
| 8 | 11.59 | 8.72 | 11.67 | 8.80 | 13.31 | -1.32 | 13.49 | -1.14 |
| 2 | 11.59 | 8.59 | 11.66 | 8.66 | 12.79 | -1.76 | 12.96 | -1.59 |
| 0 | 11.57 | XXXX | 11.64 | XXXX | 11.94 | XXXX | 12.10 | XXXX |
| VAPOR PRESSURE (MM) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 9.49 | 5.37 | 9.66 | 5.54 | 8.37 | 6.57 | 9.47 | 7.67 |
| 900 | 9.02 | 5.53 | 9.16 | 5.67 | 8.62 | 6.77 | 9.37 | 7.52 |
| 800 | 8.84 | 5.34 | 8.98 | 5.48 | 8.76 | 6.43 | 9.36 | 7.03 |
| 700 | 8.92 | 4.91 | 8.94 | 5.03 | 8.94 | 5.69 | 9.43 | 6.18 |
| 600 | 8.78 | 4.35 | 8.91 | 4.48 | 9.06 | 4.90 | 9.48 | 5.32 |
| 500 | 8.84 | 0.29 | 8.96 | 0.41 | 9.24 | -3.00 | 9.60 | -2.64 |
| 400 | 8.90 | 0.02 | 9.01 | 0.13 | 9.38 | -3.38 | 9.71 | -3.05 |
| 300 | 8.99 | -0.23 | 9.11 | -0.11 | 9.54 | -3.75 | 9.86 | -3.43 |
| 200 | 9.08 | -0.48 | 9.21 | -0.35 | 9.72 | -4.09 | 10.02 | -3.79 |
| 100 | 9.29 | -0.60 | 9.41 | -0.48 | 10.04 | -4.30 | 10.31 | -4.03 |
| 32 | 9.41 | -0.71 | 9.53 | -0.59 | 10.19 | -4.50 | 10.47 | -4.22 |
| 8 | 9.58 | -0.62 | 9.69 | -0.51 | 10.30 | -4.52 | 10.64 | -4.18 |
| 2 | 9.70 | -0.52 | 9.82 | -0.40 | 10.52 | -4.33 | 10.83 | -4.02 |
| 0 | 10.11 | XXXX | 10.23 | XXXX | 10.87 | XXXX | 11.14 | XXXX |

CASE IV-A GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|---------|---------|--------|--------|
| TAPE NO. | 785. | 786. | 787. | 788. |
| INTERVAL | 12.00HR | 12.00HR | 6.00HR | 6.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.000 | 12.44 | 1.94 | 12.47 | 1.97 | 13.30 | -1.77 | 13.34 | -1.73 |
| -0.125 | 13.15 | -0.07 | 13.16 | -0.06 | 13.47 | -0.63 | 13.47 | -0.63 |
| -0.250 | 13.16 | -0.25 | 13.19 | -0.22 | 13.08 | -0.12 | 13.08 | -0.12 |
| -0.500 | 13.12 | -0.10 | 13.13 | -0.09 | 13.09 | -0.04 | 13.11 | -0.02 |
| -1.000 | 13.24 | -0.64 | 13.24 | -0.64 | 13.57 | -0.33 | 13.57 | -0.33 |
| -2.000 | -15.64 | -31.27 | -15.64 | -31.27 | -15.64 | -31.27 | -15.64 | -31.27 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 9.28 | 3.82 | 9.24 | 3.78 | 9.00 | 6.73 | 8.78 | 6.51 |
| 2 | 7.11 | 5.19 | 7.09 | 5.17 | 5.59 | 4.69 | 5.41 | 4.51 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|-------|
| S(D) | 3.18 | 0.18 | 3.18 | 0.18 | 0.00 | 0.00 | -0.01 | -0.01 |
| R(N) | 1.17 | XXXX | 1.17 | XXXX | -1.06 | XXXX | -1.06 | XXXX |
| Q(C,0) | -0.02 | XXXX | -0.01 | XXXX | -1.94 | XXXX | -1.93 | XXXX |
| Q(E,0) | 1.43 | XXXX | 1.42 | XXXX | 1.27 | XXXX | 1.22 | XXXX |
| Q(S,0) | -0.24 | XXXX | -0.23 | XXXX | -0.38 | XXXX | -0.35 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 41.88 | XXXX | 41.50 | XXXX | 38.16 | XXXX | 36.24 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 8.20 | XXXX | 8.10 | XXXX | 3.90 | XXXX | 3.90 | XXXX |

CASE IV-A GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 17284 | 17064 | 16959 | 16875 |
| TAPE NO. | 789. | 790. | 791. | 792. |
| INTERVAL | 6.00HR | 6.00HR | 6.00HR | 6.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| GEO | -17.17 | -0.00 | -17.17 | -0.00 | -17.18 | -0.01 | -17.17 | -0.00 |
| 1000 | -5.45 | -12.45 | -8.02 | -15.02 | -9.68 | -16.68 | -10.83 | -17.83 |
| 900 | 3.69 | -3.39 | 2.89 | -4.19 | 2.36 | -4.72 | 1.98 | -5.10 |
| 800 | 5.63 | -1.50 | 5.21 | -1.92 | 4.93 | -2.20 | 4.73 | -2.40 |
| 700 | 6.36 | -0.86 | 6.10 | -1.12 | 5.91 | -1.31 | 5.78 | -1.44 |
| 600 | 6.69 | -0.60 | 6.51 | -0.78 | 6.36 | -0.93 | 6.27 | -1.02 |
| 500 | 6.85 | -0.51 | 6.71 | -0.65 | 6.60 | -0.76 | 6.53 | -0.83 |
| 400 | 6.91 | -0.58 | 6.80 | -0.69 | 6.72 | -0.77 | 6.65 | -0.84 |
| 300 | 6.88 | -0.77 | 6.78 | -0.86 | 6.71 | -0.94 | 6.66 | -0.98 |
| 200 | 6.71 | -0.69 | 6.64 | -0.76 | 6.59 | -0.81 | 6.55 | -0.85 |
| 100 | 6.32 | 0.22 | 6.26 | 0.16 | 6.22 | 0.12 | 6.19 | 0.09 |
| 32 | 5.55 | 1.55 | 5.51 | 1.51 | 5.48 | 1.48 | 5.46 | 1.46 |
| 8 | 4.51 | 2.76 | 4.49 | 2.74 | 4.46 | 2.71 | 4.43 | 2.68 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|--------|-------|--------|-------|--------|-------|--------|-------|
| GEO | -7.66 | -0.01 | -7.66 | -0.01 | -7.67 | -0.01 | -7.66 | -0.01 |
| 1000 | -5.11 | 1.60 | -5.10 | 1.61 | -5.25 | 1.46 | -5.40 | 1.31 |
| 900 | -7.75 | -0.60 | -7.41 | -0.26 | -7.24 | -0.10 | -7.14 | 0.01 |
| 800 | -9.15 | -1.60 | -8.83 | -1.28 | -8.67 | -1.12 | -8.54 | -0.99 |
| 700 | -10.02 | -2.04 | -9.72 | -1.74 | -9.59 | -1.61 | -9.48 | -1.50 |
| 600 | -10.55 | -2.16 | -10.29 | -1.90 | -10.19 | -1.80 | -10.09 | -1.70 |
| 500 | -10.88 | -2.08 | -10.65 | -1.85 | -10.57 | -1.77 | -10.48 | -1.68 |
| 400 | -11.07 | -1.92 | -10.86 | -1.71 | -10.78 | -1.63 | -10.70 | -1.55 |
| 300 | -11.08 | -2.76 | -10.90 | -2.58 | -10.83 | -2.51 | -10.76 | -2.44 |
| 200 | -10.90 | -4.40 | -10.75 | -4.25 | -10.68 | -4.18 | -10.62 | -4.12 |
| 100 | -10.25 | -5.76 | -10.16 | -5.67 | -10.11 | -5.62 | -10.05 | -5.56 |
| 32 | -9.06 | -6.36 | -8.95 | -6.25 | -8.91 | -6.21 | -8.86 | -6.16 |
| 8 | -7.38 | -5.93 | -7.28 | -5.84 | -7.25 | -5.80 | -7.21 | -5.76 |

CASE IV-A GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 789. 6.00HR | * | 790. 6.00HR | 791. 6.00HR | 792. 6.00HR |
|----------------------|----------------|---|----------------|----------------|----------------|
|----------------------|----------------|---|----------------|----------------|----------------|

AIR TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 16.43 | 4.34 | 16.63 | 4.54 | 16.76 | 4.67 | 16.84 | 4.75 |
| 900 | 15.71 | 3.10 | 15.87 | 3.26 | 15.96 | 3.35 | 16.03 | 3.42 |
| 800 | 15.30 | 2.16 | 15.42 | 2.28 | 15.51 | 2.37 | 15.56 | 2.42 |
| 700 | 15.02 | 1.38 | 15.14 | 1.49 | 15.21 | 1.56 | 15.26 | 1.61 |
| 600 | 14.81 | 0.62 | 14.90 | 0.71 | 14.97 | 0.78 | 15.02 | 0.83 |
| 500 | 14.66 | -0.05 | 14.74 | 0.03 | 14.81 | 0.10 | 14.86 | 0.15 |
| 400 | 14.53 | -0.62 | 14.61 | -0.54 | 14.66 | -0.49 | 14.71 | -0.44 |
| 300 | 14.41 | -1.11 | 14.48 | -1.03 | 14.54 | -0.98 | 14.59 | -0.93 |
| 200 | 14.27 | -1.83 | 14.34 | -1.76 | 14.39 | -1.71 | 14.45 | -1.65 |
| 100 | 14.15 | -2.26 | 14.22 | -2.19 | 14.26 | -2.15 | 14.32 | -2.09 |
| 32 | 13.85 | -1.22 | 13.92 | -1.15 | 13.97 | -1.10 | 14.02 | -1.05 |
| 8 | 13.59 | -1.04 | 13.66 | -0.97 | 13.71 | -0.92 | 13.76 | -0.87 |
| 2 | 13.05 | -1.50 | 13.11 | -1.44 | 13.16 | -1.39 | 13.22 | -1.33 |
| 0 | 12.19 | XXXX | 12.24 | XXXX | 12.29 | XXXX | 12.36 | XXXX |

VAPOR PRESSURE (MM)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 10.09 | 8.29 | 10.45 | 8.65 | 10.71 | 8.91 | 10.98 | 9.18 |
| 900 | 9.81 | 7.56 | 10.06 | 8.21 | 10.25 | 8.40 | 10.49 | 8.64 |
| 800 | 9.71 | 7.38 | 9.92 | 7.59 | 10.07 | 7.74 | 10.29 | 7.96 |
| 700 | 9.74 | 6.49 | 9.92 | 6.67 | 10.04 | 6.79 | 10.25 | 7.00 |
| 600 | 9.75 | 5.59 | 9.91 | 5.75 | 10.03 | 5.87 | 10.22 | 6.06 |
| 500 | 9.85 | -2.39 | 10.00 | -2.24 | 10.11 | -2.13 | 10.29 | -1.95 |
| 400 | 9.93 | -2.83 | 10.09 | -2.67 | 10.17 | -2.59 | 10.37 | -2.39 |
| 300 | 10.08 | -3.21 | 10.20 | -3.09 | 10.31 | -2.98 | 10.50 | -2.79 |
| 200 | 10.24 | -3.57 | 10.37 | -3.44 | 10.45 | -3.36 | 10.64 | -3.17 |
| 100 | 10.52 | -3.82 | 10.64 | -3.70 | 10.72 | -3.62 | 10.91 | -3.43 |
| 32 | 10.68 | -4.01 | 10.79 | -3.90 | 10.88 | -3.81 | 11.07 | -3.62 |
| 8 | 10.85 | -3.97 | 10.95 | -3.87 | 11.04 | -3.78 | 11.23 | -3.59 |
| 2 | 11.04 | -3.81 | 11.14 | -3.71 | 11.23 | -3.62 | 11.41 | -3.44 |
| 0 | 11.34 | XXXX | 11.45 | XXXX | 11.53 | XXXX | 11.70 | XXXX |

CASE IV-A GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 789. | 790. | 791. | 792. |
| INTERVAL | 6.00HR | 6.00HR | 6.00HR | 6.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.000 | 13.36 | -1.71 | 13.39 | -1.68 | 13.39 | -1.68 | 13.42 | -1.55 |
| -0.125 | 13.47 | -0.63 | 13.47 | -0.63 | 13.47 | -0.63 | 13.48 | -0.62 |
| -0.250 | 13.07 | -0.13 | 13.08 | -0.12 | 13.08 | -0.12 | 13.08 | -0.12 |
| -0.500 | 13.10 | -0.03 | 13.10 | -0.03 | 13.10 | -0.03 | 13.11 | -0.02 |
| -1.000 | 13.50 | -0.40 | 13.57 | -0.33 | 13.57 | -0.33 | 13.57 | -0.33 |
| -2.000 | -15.64 | -31.27 | -15.64 | -31.27 | -15.64 | -31.27 | -15.63 | -31.26 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 8.65 | 6.38 | 8.56 | 6.29 | 8.51 | 6.24 | 8.47 | 6.20 |
| 2 | 5.30 | 4.40 | 5.23 | 4.33 | 5.20 | 4.30 | 5.17 | 4.27 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|-------|-------|------|-------|------|
| S(D) | 0.00 | 0.00 | -0.00 | -0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| R(N) | -1.06 | XXXX | -1.06 | XXXX | -1.06 | XXXX | -1.06 | XXXX |
| Q(C,0) | -1.91 | XXXX | -1.89 | XXXX | -1.89 | XXXX | -1.86 | XXXX |
| Q(E,0) | 1.17 | XXXX | 1.15 | XXXX | 1.14 | XXXX | 1.10 | XXXX |
| Q(S,0) | -0.33 | XXXX | -0.32 | XXXX | -0.31 | XXXX | -0.29 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 35.08 | XXXX | 34.28 | XXXX | 33.92 | XXXX | 33.50 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 3.90 | XXXX | 3.70 | XXXX | 3.70 | XXXX | 3.60 | XXXX |

CASE IV-A GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 13859 | 13859 | 13849 | 13834 |
| TAPE NO. | 793. | 794. | 795. | 796. |
| INTERVAL | 2.00HR | 2.00HR | 2.00HR | 2.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEO | -5.34 | 0.00 | -5.33 | 0.01 | -5.34 | 0.00 | -5.34 | 0.00 |
| 1000 | 7.52 | -0.78 | 4.41 | -3.89 | 2.32 | -5.98 | 0.88 | -7.42 |
| 900 | 8.81 | 0.35 | 8.14 | -0.32 | 7.66 | -0.80 | 7.31 | -1.15 |
| 800 | 9.26 | 0.63 | 8.99 | 0.36 | 8.79 | 0.16 | 8.64 | 0.01 |
| 700 | 9.45 | 0.65 | 9.31 | 0.51 | 9.20 | 0.40 | 9.12 | 0.32 |
| 600 | 9.48 | 0.52 | 9.40 | 0.44 | 9.33 | 0.37 | 9.28 | 0.32 |
| 500 | 9.43 | 0.35 | 9.38 | 0.30 | 9.33 | 0.25 | 9.29 | 0.21 |
| 400 | 9.29 | 0.94 | 9.25 | 0.90 | 9.22 | 0.87 | 9.19 | 0.84 |
| 300 | 9.06 | 2.26 | 9.03 | 2.23 | 9.01 | 2.21 | 8.99 | 2.19 |
| 200 | 8.67 | 3.67 | 8.65 | 3.65 | 8.63 | 3.63 | 8.61 | 3.61 |
| 100 | 7.95 | 4.77 | 7.95 | 4.77 | 7.92 | 4.74 | 7.91 | 4.73 |
| 32 | 6.83 | 4.88 | 6.82 | 4.87 | 6.81 | 4.86 | 6.79 | 4.84 |
| 8 | 5.44 | 4.49 | 5.47 | 4.47 | 5.46 | 4.46 | 5.45 | 4.45 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|-------|------|-------|------|-------|------|-------|
| GEO | 3.49 | 0.01 | 3.49 | 0.01 | 3.48 | 0.01 | 3.48 | 0.01 |
| 1000 | 6.85 | 3.95 | 6.76 | 3.86 | 6.53 | 3.64 | 6.28 | 3.38 |
| 900 | 8.40 | 3.40 | 8.55 | 3.55 | 8.63 | 3.63 | 8.68 | 3.68 |
| 800 | 8.82 | 1.77 | 8.93 | 1.88 | 9.01 | 1.96 | 9.05 | 2.00 |
| 700 | 8.89 | -0.21 | 8.97 | -0.13 | 9.03 | -0.07 | 9.07 | -0.03 |
| 600 | 8.86 | -2.22 | 8.91 | -2.17 | 8.95 | -2.13 | 8.98 | -2.10 |
| 500 | 8.72 | -4.53 | 8.76 | -4.49 | 8.79 | -4.46 | 8.82 | -4.43 |
| 400 | 8.51 | -6.33 | 8.54 | -6.30 | 8.56 | -6.28 | 8.58 | -6.26 |
| 300 | 8.21 | -6.39 | 8.24 | -6.36 | 8.25 | -6.35 | 8.27 | -6.33 |
| 200 | 7.77 | -4.88 | 7.78 | -4.86 | 7.80 | -4.85 | 7.81 | -4.84 |
| 100 | 7.07 | -2.57 | 7.10 | -2.55 | 7.10 | -2.55 | 7.11 | -2.54 |
| 32 | 6.02 | -0.78 | 6.04 | -0.76 | 6.05 | -0.75 | 6.06 | -0.74 |
| 8 | 4.83 | 1.13 | 4.84 | 1.14 | 4.84 | 1.14 | 4.85 | 1.15 |

CASE IV-A GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 793. 2.00HR | 794. 2.00HR | 795. 2.00HR | 796. 2.00HR |
|----------------------|----------------|----------------|----------------|----------------|
|----------------------|----------------|----------------|----------------|----------------|

AIR TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 15.76 | 2.21 | 15.86 | 2.31 | 15.92 | 2.37 | 15.97 | 2.42 |
| 900 | 16.63 | 2.13 | 16.70 | 2.20 | 16.75 | 2.25 | 16.77 | 2.27 |
| 800 | 16.93 | 1.48 | 16.98 | 1.53 | 17.02 | 1.57 | 17.03 | 1.58 |
| 700 | 17.09 | 0.69 | 17.12 | 0.72 | 17.14 | 0.74 | 17.16 | 0.76 |
| 600 | 17.14 | -0.21 | 17.17 | -0.18 | 17.19 | -0.16 | 17.19 | -0.16 |
| 500 | 17.18 | -1.13 | 17.19 | -1.12 | 17.21 | -1.10 | 17.22 | -1.09 |
| 400 | 17.16 | -1.80 | 17.16 | -1.80 | 17.18 | -1.78 | 17.19 | -1.77 |
| 300 | 17.01 | -1.99 | 17.12 | -1.88 | 17.13 | -1.87 | 17.13 | -1.87 |
| 200 | 16.98 | -2.17 | 16.99 | -2.16 | 17.01 | -2.14 | 17.01 | -2.14 |
| 100 | 16.81 | -2.57 | 16.82 | -2.56 | 16.82 | -2.56 | 16.83 | -2.55 |
| 32 | 16.42 | -3.18 | 16.43 | -3.17 | 16.44 | -3.16 | 16.44 | -3.16 |
| 8 | 16.05 | -3.65 | 16.05 | -3.65 | 16.07 | -3.63 | 16.07 | -3.63 |
| 2 | 15.28 | -4.45 | 15.28 | -4.45 | 15.30 | -4.43 | 15.29 | -4.44 |
| 0 | 14.24 | XXXX | 14.24 | XXXX | 14.25 | XXXX | 14.24 | XXXX |

VAPOR PRESSURE (MM)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 8.70 | 3.47 | 8.87 | 3.64 | 8.98 | 3.75 | 9.06 | 3.83 |
| 900 | 9.95 | 4.54 | 10.06 | 4.65 | 10.13 | 4.72 | 10.19 | 4.78 |
| 800 | 10.57 | 4.70 | 10.64 | 4.77 | 10.64 | 4.82 | 10.73 | 4.86 |
| 700 | 11.03 | 4.40 | 11.08 | 4.45 | 11.12 | 4.49 | 11.15 | 4.52 |
| 600 | 11.36 | 3.98 | 11.40 | 4.02 | 11.42 | 4.04 | 11.45 | 4.07 |
| 500 | 11.69 | -1.22 | 11.71 | -1.20 | 11.73 | -1.18 | 11.75 | -1.16 |
| 400 | 11.95 | -1.45 | 11.97 | -1.43 | 11.99 | -1.41 | 12.01 | -1.39 |
| 300 | 12.22 | -1.69 | 12.23 | -1.68 | 12.25 | -1.66 | 12.26 | -1.65 |
| 200 | 12.47 | -1.93 | 12.48 | -1.92 | 12.51 | -1.89 | 12.51 | -1.89 |
| 100 | 12.79 | -2.10 | 12.81 | -2.08 | 12.81 | -2.08 | 12.82 | -2.07 |
| 32 | 12.96 | -2.27 | 12.98 | -2.25 | 12.99 | -2.24 | 13.01 | -2.22 |
| 8 | 13.14 | -2.21 | 13.15 | -2.20 | 13.16 | -2.19 | 13.17 | -2.18 |
| 2 | 13.36 | -2.02 | 13.37 | -2.01 | 13.38 | -2.00 | 13.39 | -1.99 |
| 0 | 13.66 | XXXX | 13.67 | XXXX | 13.67 | XXXX | 13.69 | XXXX |

CASE IV-A GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 793. | 794. | 795. | 796. |
| INTERVAL | 2.00HR | 2.00HR | 2.00HR | 2.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.000 | 14.40 | -0.98 | 14.40 | -0.98 | 14.41 | -0.97 | 14.41 | -0.97 |
| -0.125 | 13.49 | -0.09 | 13.49 | -0.09 | 13.49 | -0.09 | 13.49 | -0.09 |
| -0.250 | 12.94 | -0.03 | 12.94 | -0.03 | 12.94 | -0.03 | 12.95 | -0.02 |
| -0.500 | 13.08 | 0.01 | 13.08 | 0.01 | 13.07 | 0.00 | 13.07 | 0.00 |
| -1.000 | 13.81 | -0.09 | 13.81 | -0.09 | 13.81 | -0.09 | 13.80 | -0.10 |
| -2.000 | -15.64 | -31.27 | -15.64 | -31.27 | -15.64 | -31.27 | -15.64 | -31.27 |

WIND SPEED (M/SEC)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| 8 | 7.31 | 3.48 | 7.31 | 3.48 | 7.31 | 3.48 | 7.30 | 3.47 |
| 2 | 4.21 | 3.79 | 4.21 | 3.79 | 4.21 | 3.79 | 4.21 | 3.79 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|------|-------|------|-------|------|
| S(D) | -0.00 | -0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| R(N) | -1.05 | XXXX | -1.05 | XXXX | -1.05 | XXXX | -1.05 | XXXX |
| Q(C,0) | -2.04 | XXXX | -2.03 | XXXX | -2.03 | XXXX | -2.03 | XXXX |
| Q(E,0) | 1.03 | XXXX | 1.03 | XXXX | 1.02 | XXXX | 1.02 | XXXX |
| Q(S,0) | -0.04 | XXXX | -0.04 | XXXX | -0.04 | XXXX | -0.04 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 24.36 | XXXX | 24.32 | XXXX | 24.30 | XXXX | 24.28 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 1.50 | XXXX | 1.20 | XXXX | 1.30 | XXXX | 1.30 | XXXX |

CASE IV-A GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 13844 | 13839 | 18029 | 18024 |
| TAPE NO. | 797. | 798. | 799. | 800. |
| INTERVAL | 2.00HR | 2.00HR | 1.00HR | 1.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GEU | -5.34 | 0.00 | -5.34 | 0.00 | -1.38 | 0.01 | -1.38 | 0.01 |
| 1000 | -0.14 | -8.44 | -0.90 | -9.20 | 7.56 | -0.69 | 6.00 | -2.25 |
| 900 | 7.04 | -1.7 | 6.83 | -1.63 | 8.45 | 0.15 | 8.17 | -0.13 |
| 800 | 8.51 | -0.12 | 8.41 | -0.22 | 8.75 | 0.36 | 8.65 | 0.26 |
| 700 | 9.04 | 0.24 | 8.98 | 0.18 | 8.82 | 0.38 | 8.78 | 0.34 |
| 600 | 9.23 | 0.27 | 9.19 | 0.23 | 8.76 | 0.26 | 8.74 | 0.24 |
| 500 | 9.25 | 0.17 | 9.23 | 0.15 | 8.61 | 0.02 | 8.60 | 0.01 |
| 400 | 9.17 | 0.82 | 9.15 | 0.80 | 8.40 | 0.33 | 8.35 | 0.28 |
| 300 | 8.97 | 2.17 | 8.95 | 2.15 | 8.11 | 1.51 | 8.11 | 1.51 |
| 200 | 8.55 | 3.55 | 8.59 | 3.59 | 7.70 | 2.90 | 7.70 | 2.90 |
| 100 | 7.90 | 4.72 | 7.89 | 4.71 | 7.01 | 4.41 | 7.01 | 4.41 |
| 32 | 6.80 | 4.85 | 6.79 | 4.84 | 6.00 | 4.92 | 6.00 | 4.92 |
| 8 | 5.45 | 4.45 | 5.45 | 4.45 | 4.83 | 4.53 | 4.83 | 4.53 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|-------|------|-------|-------|-------|-------|-------|
| GEU | 3.48 | 0.01 | 3.48 | 0.01 | 3.24 | -0.01 | 3.24 | -0.01 |
| 1000 | 6.03 | 3.13 | 5.79 | 2.89 | 6.83 | 2.58 | 6.63 | 2.38 |
| 900 | 8.69 | 3.69 | 8.70 | 3.70 | 9.71 | 3.26 | 9.74 | 3.29 |
| 800 | 9.09 | 2.04 | 9.11 | 2.06 | 11.06 | 2.41 | 11.08 | 2.43 |
| 700 | 9.10 | -0.00 | 9.12 | 0.02 | 11.79 | 0.94 | 11.80 | 0.95 |
| 600 | 9.00 | -2.08 | 9.02 | -2.06 | 12.15 | -0.90 | 12.21 | -0.84 |
| 500 | 8.83 | -4.42 | 8.84 | -4.41 | 12.38 | -2.92 | 12.38 | -2.92 |
| 400 | 8.59 | -6.25 | 8.60 | -6.24 | 12.38 | -4.49 | 12.38 | -4.49 |
| 300 | 8.28 | -6.32 | 8.28 | -6.32 | 12.21 | -4.21 | 12.21 | -4.21 |
| 200 | 7.82 | -4.83 | 7.82 | -4.82 | 11.78 | -2.67 | 11.78 | -2.67 |
| 100 | 7.11 | -2.53 | 7.13 | -2.52 | 10.95 | -0.50 | 10.94 | -0.51 |
| 32 | 6.06 | -0.74 | 6.06 | -0.74 | 9.47 | 1.17 | 9.47 | 1.17 |
| 8 | 4.85 | 1.15 | 4.86 | 1.16 | 7.66 | 2.26 | 7.66 | 2.26 |

CASE IV-A GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 797. 2.00HR | 798. 2.00HR | 799. 1.00HR | 800. 1.00HR |
|----------------------|----------------|----------------|----------------|----------------|
|----------------------|----------------|----------------|----------------|----------------|

AIR TEMPERATURE (DEG C)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 16.01 | 2.46 | 16.02 | 2.47 | 14.61 | 1.11 | 14.62 | 1.12 |
| 900 | 16.79 | 2.29 | 16.81 | 2.31 | 15.91 | 1.55 | 15.91 | 1.55 |
| 800 | 17.06 | 1.61 | 17.06 | 1.61 | 16.49 | 1.25 | 16.51 | 1.27 |
| 700 | 17.19 | 0.79 | 17.19 | 0.79 | 16.87 | 0.77 | 16.87 | 0.77 |
| 600 | 17.21 | -0.14 | 17.21 | -0.14 | 17.09 | 0.12 | 17.09 | 0.12 |
| 500 | 17.22 | -1.09 | 17.25 | -1.08 | 17.24 | -0.61 | 17.25 | -0.60 |
| 400 | 17.20 | -1.76 | 17.20 | -1.76 | 17.33 | -1.14 | 17.34 | -1.13 |
| 300 | 17.14 | -1.86 | 17.14 | -1.86 | 17.37 | -1.33 | 17.36 | -1.34 |
| 200 | 17.02 | -2.13 | 17.02 | -2.13 | 17.33 | -1.70 | 17.33 | -1.70 |
| 100 | 16.84 | -2.54 | 16.84 | -2.54 | 17.22 | -1.90 | 17.22 | -1.90 |
| 32 | 16.45 | -3.15 | 16.44 | -3.16 | 16.90 | -2.38 | 16.90 | -2.38 |
| 8 | 16.07 | -3.63 | 16.07 | -3.63 | 16.58 | -2.85 | 16.58 | -2.85 |
| 2 | 15.30 | -4.43 | 15.30 | -4.43 | 15.94 | -3.56 | 15.94 | -3.56 |
| 0 | 14.25 | XXXX | 14.25 | XXXX | 14.94 | XXXX | 14.94 | XXXX |

VAPOR PRESSURE (MB)

| LEVEL (M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 9.11 | 3.88 | 9.17 | 3.94 | 7.73 | 1.64 | 7.74 | 1.65 |
| 900 | 10.21 | 4.80 | 10.25 | 4.84 | 9.31 | 3.02 | 9.29 | 3.00 |
| 800 | 10.74 | 4.87 | 10.77 | 4.90 | 10.21 | 3.45 | 10.18 | 3.42 |
| 700 | 11.16 | 4.53 | 11.19 | 4.56 | 10.91 | 3.43 | 10.89 | 3.41 |
| 600 | 11.45 | 4.07 | 11.47 | 4.09 | 11.41 | 3.23 | 11.39 | 3.21 |
| 500 | 11.75 | -1.16 | 11.76 | -1.15 | 11.86 | -1.22 | 11.84 | -1.24 |
| 400 | 11.91 | -1.49 | 12.01 | -1.39 | 12.25 | -1.31 | 12.22 | -1.34 |
| 300 | 12.26 | -1.65 | 12.29 | -1.61 | 12.61 | -1.45 | 12.59 | -1.47 |
| 200 | 12.51 | -1.89 | 12.51 | -1.89 | 12.93 | -1.61 | 12.92 | -1.62 |
| 100 | 12.81 | -2.08 | 12.83 | -2.06 | 13.32 | -1.71 | 13.29 | -1.74 |
| 32 | 12.99 | -2.24 | 13.01 | -2.22 | 13.51 | -1.85 | 13.49 | -1.87 |
| 8 | 13.17 | -2.18 | 13.17 | -2.18 | 13.67 | -1.81 | 13.65 | -1.83 |
| 2 | 13.39 | -1.99 | 13.39 | -1.99 | 13.85 | -1.66 | 13.83 | -1.68 |
| 0 | 13.68 | XXXX | 13.68 | XXXX | 14.12 | XXXX | 14.11 | XXXX |

CASE IV-A GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| TAPE NO. | 797. | 798. | 799. | 800. |
|----------|--------|--------|--------|--------|
| INTERVAL | 2.00HR | 2.00HR | 1.00HR | 1.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.000 | 14.41 | -0.97 | 14.41 | -0.97 | 14.56 | -0.39 | 14.56 | -0.39 |
| -0.125 | 13.49 | -0.09 | 13.49 | -0.09 | 13.45 | -0.01 | 13.45 | -0.01 |
| -0.250 | 12.94 | -0.03 | 12.94 | -0.03 | 12.91 | -0.01 | 12.91 | -0.01 |
| -0.500 | 13.07 | 0.00 | 13.08 | 0.01 | 13.07 | -0.01 | 13.07 | -0.01 |
| -1.000 | 13.81 | -0.09 | 13.81 | -0.09 | 13.85 | -0.05 | 13.86 | -0.04 |
| -2.000 | -15.64 | -31.27 | -15.65 | -31.28 | -15.64 | -31.27 | -15.64 | -31.27 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 7.31 | 3.48 | 7.30 | 3.47 | 9.06 | 3.65 | 9.06 | 3.65 |
| 2 | 4.21 | 3.79 | 4.21 | 3.79 | 5.52 | 4.07 | 5.51 | 4.06 |

SURFACE ENERGY TERMS (LY/SFC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| S(D) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| R(N) | -1.05 | XXXX | -1.05 | XXXX | -1.08 | XXXX | -1.08 | XXXX |
| Q(C,0) | -2.03 | XXXX | -2.03 | XXXX | -2.31 | XXXX | -2.34 | XXXX |
| Q(E,0) | 1.02 | XXXX | 1.02 | XXXX | 1.13 | XXXX | 1.13 | XXXX |
| Q(S,0) | -0.04 | XXXX | -0.04 | XXXX | 0.12 | XXXX | 0.11 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 24.32 | XXXX | 24.32 | XXXX | 36.40 | XXXX | 38.38 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|------|------|
| E | 1.30 | XXXX | 1.20 | XXXX | 0.70 | XXXX | 0.60 | XXXX |

CASE IV-A GPAC OUTPUT DATA

VELOCITY COMPONENTS

| | | | | |
|--------------|--------|--------|--------|--------|
| K(CM SQ/SEC) | 18024 | 18029 | 18024 | 18024 |
| TAPE NO. | 801. | 802. | 803. | 804. |
| INTERVAL | 1.00HR | 1.00HR | 1.00HR | 1.00HR |

U COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GED | -1.38 | 0.01 | -1.38 | 0.01 | -1.38 | 0.01 | -1.38 | 0.01 |
| 1000 | 4.78 | -3.47 | 3.84 | -4.41 | 3.10 | -5.15 | 2.51 | -5.74 |
| 900 | 7.95 | -0.35 | 7.75 | -0.55 | 7.60 | -0.70 | 7.47 | -0.83 |
| 800 | 8.57 | 0.18 | 8.51 | 0.12 | 8.45 | 0.06 | 8.41 | 0.02 |
| 700 | 8.74 | 0.30 | 8.71 | 0.27 | 8.68 | 0.24 | 8.66 | 0.22 |
| 600 | 8.72 | 0.22 | 8.70 | 0.20 | 8.69 | 0.19 | 8.68 | 0.18 |
| 500 | 8.59 | 0.00 | 8.58 | -0.01 | 8.58 | -0.01 | 8.57 | -0.02 |
| 400 | 8.39 | 0.32 | 8.38 | 0.31 | 8.38 | 0.31 | 8.38 | 0.31 |
| 300 | 8.11 | 1.51 | 8.11 | 1.51 | 8.10 | 1.50 | 8.10 | 1.50 |
| 200 | 7.69 | 2.89 | 7.69 | 2.89 | 7.69 | 2.89 | 7.69 | 2.89 |
| 100 | 7.01 | 4.41 | 7.01 | 4.41 | 7.01 | 4.41 | 7.01 | 4.41 |
| 32 | 6.00 | 4.92 | 6.00 | 4.92 | 6.00 | 4.92 | 6.00 | 4.92 |
| 8 | 4.83 | 4.53 | 4.83 | 4.53 | 4.82 | 4.52 | 4.83 | 4.53 |

V COMPONENT (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| GED | 3.24 | -0.01 | 3.24 | -0.01 | 3.24 | -0.01 | 3.24 | -0.01 |
| 1000 | 6.45 | 2.20 | 6.24 | 1.99 | 6.05 | 1.80 | 5.88 | 1.63 |
| 900 | 9.76 | 3.31 | 9.76 | 3.31 | 9.76 | 3.31 | 9.76 | 3.31 |
| 800 | 11.11 | 2.46 | 11.12 | 2.47 | 11.13 | 2.48 | 11.14 | 2.49 |
| 700 | 11.82 | 0.97 | 11.83 | 0.98 | 11.83 | 0.98 | 11.84 | 0.99 |
| 600 | 12.22 | -0.83 | 12.22 | -0.83 | 12.22 | -0.83 | 12.23 | -0.82 |
| 500 | 12.39 | -2.91 | 12.39 | -2.91 | 12.39 | -2.91 | 12.39 | -2.91 |
| 400 | 12.38 | -4.49 | 12.38 | -4.49 | 12.38 | -4.49 | 12.39 | -4.48 |
| 300 | 12.21 | -4.21 | 12.21 | -4.21 | 12.21 | -4.21 | 12.21 | -4.21 |
| 200 | 11.78 | -2.67 | 11.78 | -2.67 | 11.78 | -2.67 | 11.79 | -2.66 |
| 100 | 10.94 | -0.51 | 10.94 | -0.51 | 10.94 | -0.51 | 10.94 | -0.51 |
| 32 | 9.47 | 1.17 | 9.47 | 1.17 | 9.47 | 1.17 | 9.47 | 1.17 |
| 8 | 7.66 | 2.27 | 7.66 | 2.26 | 7.66 | 2.26 | 7.66 | 2.26 |

CASE IV-A GPAC OUTPUT DATA

AIR TEMPERATURE AND VAPOR PRESSURE

| TAPE NO. INTERVAL | 801. 1.00HR | | 802. 1.00HR | | 803. 1.00HR | | 804. 1.00HR | |
|-------------------------|----------------|-------|----------------|-------|----------------|-------|----------------|-------|
| AIR TEMPERATURE (DEG C) | | | | | | | | |
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 14.65 | 1.15 | 14.66 | 1.16 | 14.67 | 1.17 | 14.69 | 1.19 |
| 900 | 15.93 | 1.57 | 15.94 | 1.58 | 15.94 | 1.58 | 15.95 | 1.59 |
| 800 | 16.51 | 1.27 | 16.52 | 1.28 | 16.53 | 1.29 | 16.53 | 1.29 |
| 700 | 16.87 | 0.77 | 16.90 | 0.80 | 16.90 | 0.80 | 16.90 | 0.80 |
| 600 | 17.09 | 0.12 | 17.09 | 0.12 | 17.09 | 0.12 | 17.10 | 0.13 |
| 500 | 17.25 | -0.60 | 17.25 | -0.60 | 17.26 | -0.59 | 17.26 | -0.59 |
| 400 | 17.34 | -1.13 | 17.34 | -1.13 | 17.34 | -1.13 | 17.34 | -1.13 |
| 300 | 17.37 | -1.33 | 17.37 | -1.33 | 17.37 | -1.33 | 17.38 | -1.32 |
| 200 | 17.33 | -1.70 | 17.34 | -1.69 | 17.33 | -1.70 | 17.34 | -1.69 |
| 100 | 17.21 | -1.91 | 17.22 | -1.90 | 17.22 | -1.90 | 17.21 | -1.91 |
| 32 | 16.90 | -2.38 | 16.91 | -2.37 | 16.90 | -2.38 | 16.90 | -2.38 |
| 8 | 16.59 | -2.84 | 16.59 | -2.84 | 16.59 | -2.84 | 16.59 | -2.84 |
| 2 | 15.94 | -3.56 | 15.95 | -3.55 | 15.95 | -3.55 | 15.95 | -3.55 |
| 0 | 14.94 | XXXX | 14.95 | XXXX | 14.95 | XXXX | 14.95 | XXXX |

| VAPOR PRESSURE (MB) | | | | | | | | |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
| 1000 | 7.81 | 1.72 | 7.85 | 1.76 | 7.87 | 1.78 | 7.87 | 1.78 |
| 900 | 9.36 | 3.07 | 9.39 | 3.10 | 9.41 | 3.12 | 9.37 | 3.08 |
| 800 | 10.25 | 3.49 | 10.27 | 3.51 | 10.27 | 3.51 | 10.23 | 3.47 |
| 700 | 10.92 | 3.44 | 10.94 | 3.46 | 10.95 | 3.47 | 10.92 | 3.44 |
| 600 | 11.42 | 3.24 | 11.44 | 3.26 | 11.43 | 3.25 | 11.42 | 3.24 |
| 500 | 11.89 | -1.19 | 11.91 | -1.17 | 11.91 | -1.17 | 11.90 | -1.18 |
| 400 | 12.27 | -1.29 | 12.28 | -1.28 | 12.26 | -1.30 | 12.27 | -1.29 |
| 300 | 12.62 | -1.44 | 12.63 | -1.43 | 12.62 | -1.44 | 12.62 | -1.44 |
| 200 | 12.94 | -1.60 | 12.96 | -1.58 | 12.95 | -1.59 | 12.95 | -1.59 |
| 100 | 13.32 | -1.71 | 13.33 | -1.70 | 13.32 | -1.71 | 13.33 | -1.70 |
| 32 | 13.51 | -1.85 | 13.53 | -1.83 | 13.52 | -1.84 | 13.52 | -1.84 |
| 8 | 13.69 | -1.79 | 13.69 | -1.79 | 13.69 | -1.79 | 13.69 | -1.79 |
| 2 | 13.86 | -1.65 | 13.87 | -1.64 | 13.86 | -1.65 | 13.86 | -1.65 |
| 0 | 14.12 | XXXX | 14.14 | XXXX | 14.13 | XXXX | 14.13 | XXXX |

CASE IV-A GPAC OUTPUT DATA

MISCELLANEOUS VARIABLES

| | | | | |
|----------|--------|--------|--------|--------|
| TAPE NO. | 801. | 802. | 803. | 804. |
| INTERVAL | 1.00HR | 1.00HR | 1.00HR | 1.00HR |

SOIL TEMPERATURE (DEG C)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| C.000 | 14.57 | -0.38 | 14.56 | -0.39 | 14.56 | -0.39 | 14.56 | -0.39 |
| -0.125 | 13.45 | -0.01 | 13.45 | -0.01 | 13.45 | -0.01 | 13.45 | -0.01 |
| -0.250 | 12.91 | -0.01 | 12.91 | -0.01 | 12.91 | -0.01 | 12.91 | -0.01 |
| -0.500 | 13.06 | -0.02 | 13.07 | -0.01 | 13.07 | -0.01 | 13.07 | -0.01 |
| -1.000 | 13.86 | -0.04 | 13.86 | -0.04 | 13.86 | -0.04 | 13.85 | -0.05 |
| -2.000 | -15.64 | -31.27 | -15.64 | -31.27 | -15.64 | -31.27 | -15.64 | -31.27 |

WIND SPEED (M/SEC)

| LEVEL(M) | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|----------|------|------|------|------|------|------|------|------|
| 8 | 9.06 | 3.65 | 9.06 | 3.65 | 9.06 | 3.65 | 9.06 | 3.65 |
| 2 | 5.52 | 4.07 | 5.52 | 4.07 | 5.52 | 4.07 | 5.52 | 4.07 |

SURFACE ENERGY TERMS (LY/SEC)X1000

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|-------|
| S(D) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.00 | -0.00 |
| R(N) | -1.08 | XXXX | -1.08 | XXXX | -1.08 | XXXX | -1.08 | XXXX |
| Q(C,0) | -2.33 | XXXX | -2.33 | XXXX | -2.33 | XXXX | -2.33 | XXXX |
| Q(E,0) | 1.13 | XXXX | 1.13 | XXXX | 1.13 | XXXX | 1.13 | XXXX |
| Q(S,0) | 0.12 | XXXX | 0.12 | XXXX | 0.12 | XXXX | 0.12 | XXXX |

SURFACE SHEAR STRESS (DYNES/CM SQ)X10

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|-------|------|-------|------|-------|------|-------|------|
| TAU | 38.40 | XXXX | 38.40 | XXXX | 38.40 | XXXX | 38.42 | XXXX |

INTEGRATED EVAPOTRANSPIRATION (GM/CM SQ)X100

| PARAMETER | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF | GPAC | DIFF |
|-----------|------|------|------|------|------|------|-------|------|
| E | 0.60 | XXXX | 0.60 | XXXX | 0.60 | XXXX | -0.60 | XXXX |

ROOT MEAN SQUARES OF THE DIFFERENCES BETWEEN
THE PREDICTED AND OBSERVED ATMOSPHERIC COLUMNS

CASE IV-A

12.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 4.70 | 10.07 | 4.66 | 7.91 | 13.40 |
| PERSIST DIFF | | 5.86 | 22.77 | 13.23 | 4.67 | 1.65 |
| GPAC DIFF | 781. | 6.16 | 4.83 | 6.40 | 2.57 | 12.78 |
| GPAC DIFF | 782. | 6.26 | 3.71 | 7.30 | 2.70 | 12.79 |
| GPAC DIFF | 783. | 6.58 | 3.35 | 7.69 | 2.92 | 12.79 |
| GPAC DIFF | 784. | 6.79 | 3.20 | 7.90 | 3.09 | 12.79 |
| GPAC DIFF | 785. | 6.99 | 3.14 | 8.01 | 3.20 | 12.79 |
| GPAC DIFF | 786. | 7.10 | 3.12 | 8.09 | 3.28 | 12.79 |

CASE IV-A

6.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 7.99 | 7.06 | 14.50 | 11.03 | 14.20 |
| PERSIST DIFF | | 2.14 | 19.68 | 2.36 | 3.39 | 0.40 |
| GPAC DIFF | 787. | 0.97 | 4.14 | 1.74 | 4.93 | 12.79 |
| GPAC DIFF | 788. | 2.53 | 3.68 | 1.88 | 5.12 | 12.79 |
| GPAC DIFF | 789. | 3.74 | 3.49 | 1.97 | 5.25 | 12.79 |
| GPAC DIFF | 790. | 4.48 | 3.37 | 2.01 | 5.32 | 12.79 |
| GPAC DIFF | 791. | 4.96 | 3.31 | 2.05 | 5.38 | 12.79 |
| GPAC DIFF | 792. | 5.30 | 3.26 | 2.06 | 5.44 | 12.78 |

ROOT MEAN SQUARES OF THE DIFFERENCES BETWEEN
THE PREDICTED AND OBSERVED ATMOSPHERIC COLUMNS

CASE IV-A

2.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 7.01 | 9.70 | 17.89 | 11.97 | 14.13 |
| PERSIST DIFF | | 1.06 | 2.97 | 0.99 | 1.13 | 0.37 |
| GPAC DIFF | 793. | 2.61 | 3.61 | 2.40 | 3.02 | 12.77 |
| GPAC DIFF | 794. | 2.79 | 3.60 | 2.41 | 3.06 | 12.77 |
| GPAC DIFF | 795. | 3.06 | 3.58 | 2.41 | 3.09 | 12.77 |
| GPAC DIFF | 796. | 3.29 | 3.55 | 2.42 | 3.11 | 12.77 |
| GPAC DIFF | 797. | 3.48 | 3.53 | 2.42 | 3.12 | 12.77 |
| GPAC DIFF | 798. | 3.63 | 3.51 | 2.42 | 3.14 | 12.78 |

CASE IV-A

1.00 HOUR

| | TAPE NO. | U (M/SEC) | V (M/SEC) | T(AIR) (DEG C) | E (MB) | T(SOIL) (DEG C) |
|---------------|-------------|--------------|--------------|-------------------|-----------|--------------------|
| RMS MAGNITUDE | | 6.60 | 11.30 | 17.62 | 12.25 | 14.02 |
| PERSIST DIFF | | 0.64 | 1.38 | 0.69 | 0.56 | 0.19 |
| GPAC DIFF | 799. | 2.42 | 2.56 | 1.80 | 2.26 | 12.77 |
| GPAC DIFF | 800. | 2.49 | 2.55 | 1.80 | 2.26 | 12.77 |
| GPAC DIFF | 801. | 2.59 | 2.54 | 1.80 | 2.27 | 12.77 |
| GPAC DIFF | 802. | 2.70 | 2.52 | 1.80 | 2.28 | 12.77 |
| GPAC DIFF | 803. | 2.80 | 2.51 | 1.81 | 2.28 | 12.77 |
| GPAC DIFF | 804. | 2.89 | 2.50 | 1.81 | 2.27 | 12.77 |

II. RELATIONSHIPS BETWEEN THE ALTERNATE EXCHANGE COEFFICIENTS, THE TEMPERATURE GRADIENT IN THE SURFACE LAYER, AND THE WIND SPEED AT THE HEIGHT OF EIGHT METERS

In order to illustrate the relationship between the alternate exchange coefficients and gradients of atmospheric variables in the surface layer, temporal plots of the temperature difference between the surface and 8-m height and the associated wind speed at 8-m height for Case I-B will be shown. This case has been chosen for illustration primarily because a large diurnal temperature change is in evidence and, consequently, the effects of atmospheric stability are accentuated. Two sets of curves are shown, one for a 12 hr period and the other for a 48 hr period.

Figures II.1 through II.4 are 12 hr solutions for the most general conditions (Tape No. 755) for Case I-B. Inspection of these four figures simultaneously will show the interrelationships of the variables. At the initial time the surface of the soil is approximately 2.95 deg C cooler than the air temperature and the wind speed at 8-m height is 1.98 m/sec. Correspondingly, the values of the exchange coefficients $K_{m,8}$ and D_8 are, respectively, 1700 cm²/sec and 0.46 cm/sec. The sun is above the horizon at this time and heat is being added to the surface.

When the computer is placed in the compute mode, there is a sudden increase in the wind speed at 8-m height as the computer adjusts the input conditions to conform to the meteorological equations. Accompanying the increase in S_8 are corresponding rapid increases in $K_{m,8}$ and D_8 . After this sudden acceleration, the wind

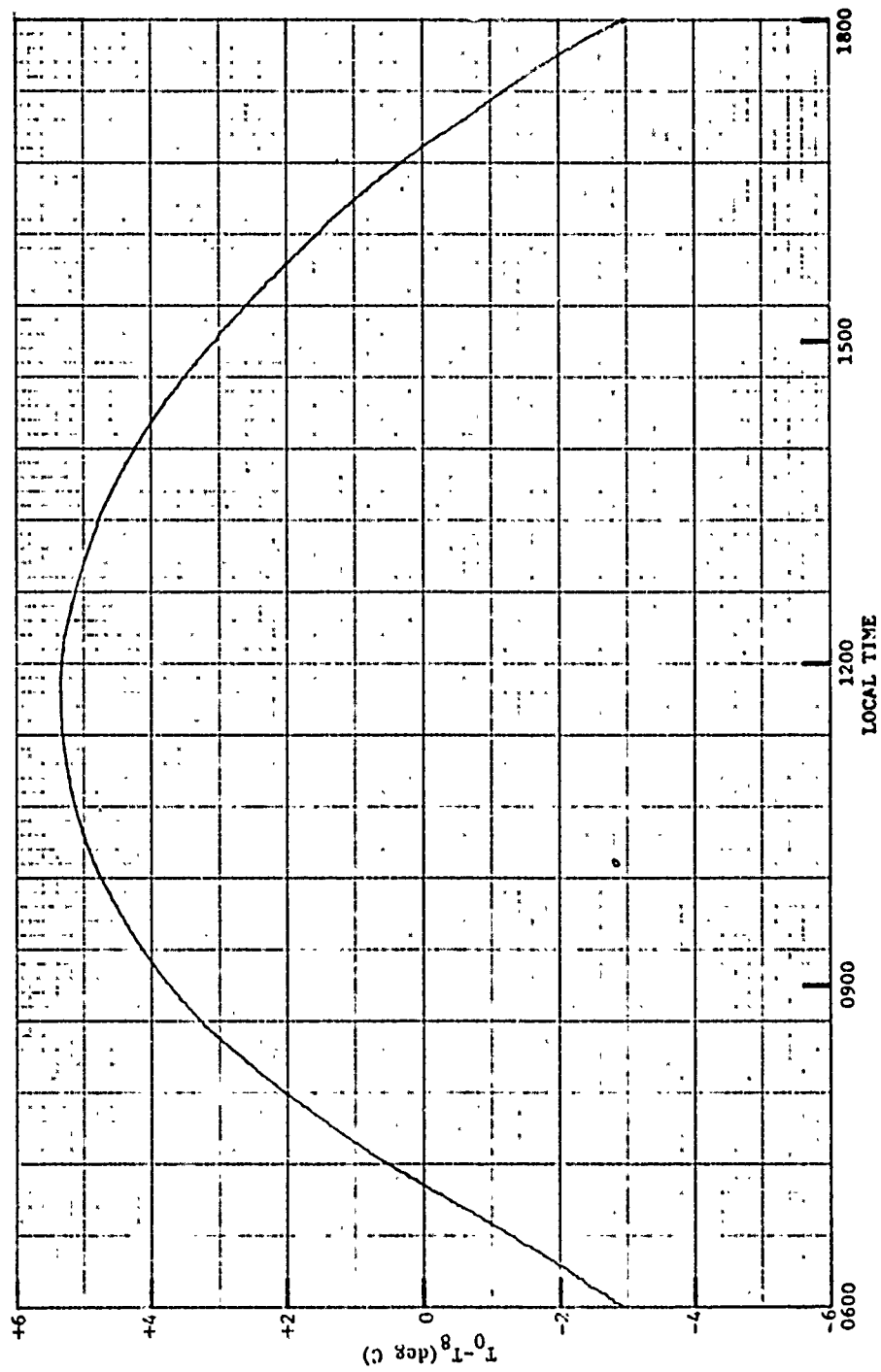


Figure II.1 Twelve hour simulation of the difference in temperature between the surface and 8-m height, $T_0 - T_8$, for Case I-B.

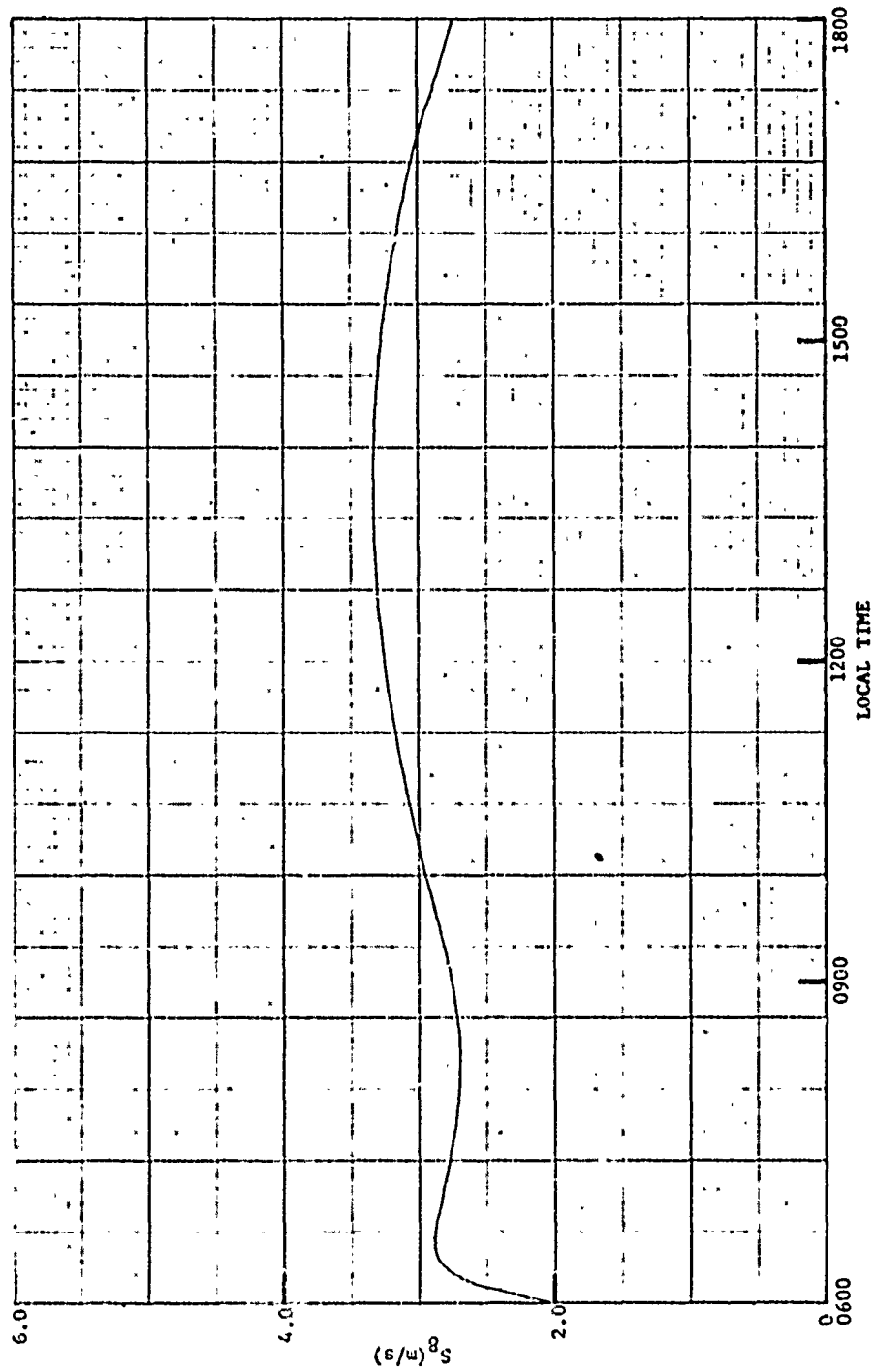


Figure II.2 Twelve hour simulation of the wind speed, S_8 , at 8-m height for Case I-B.

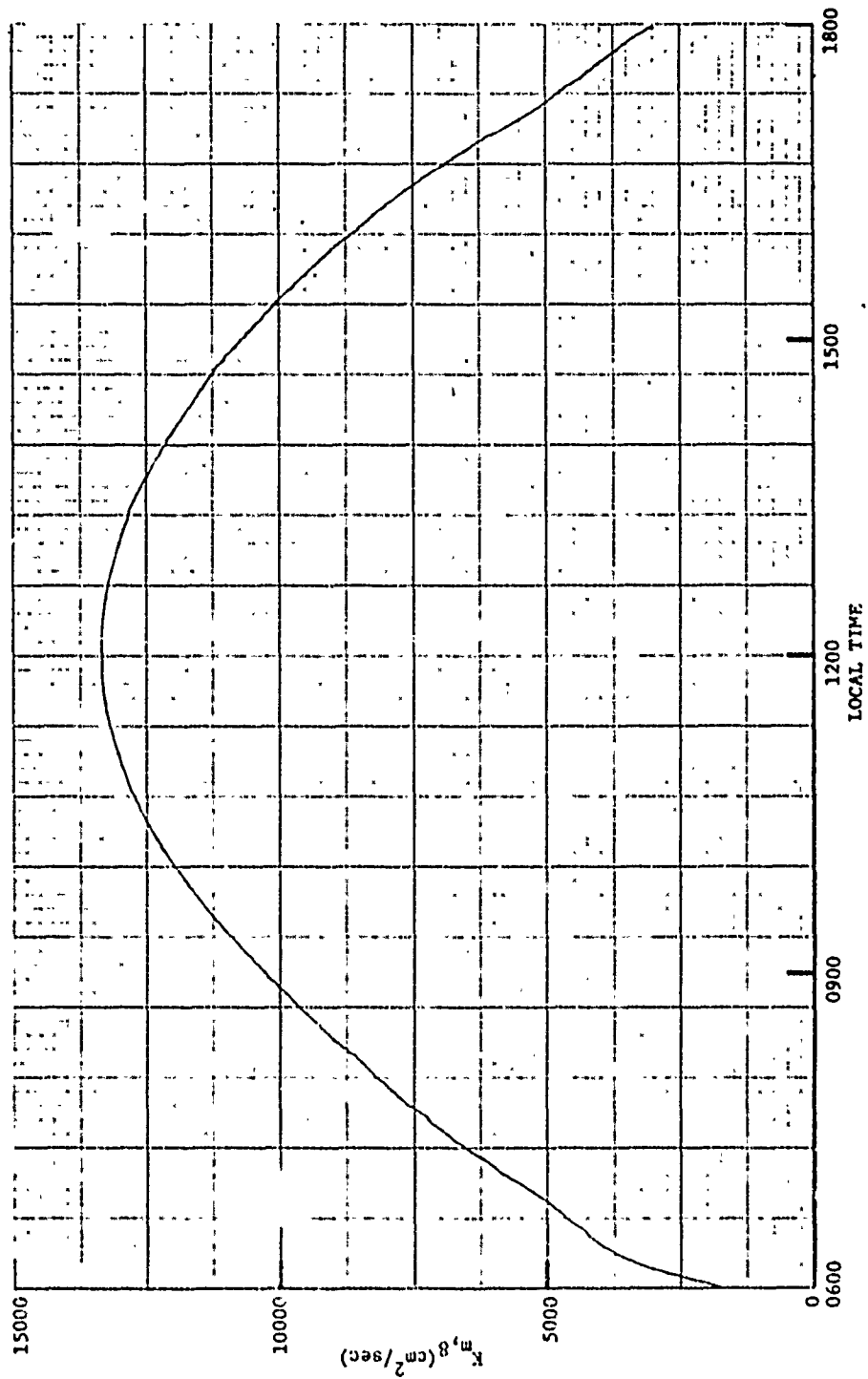


Figure II.3 Twelve hour simulation of the exchange coefficient for momentum at 8-m height, $K_{m,8}$, for Case I-R.

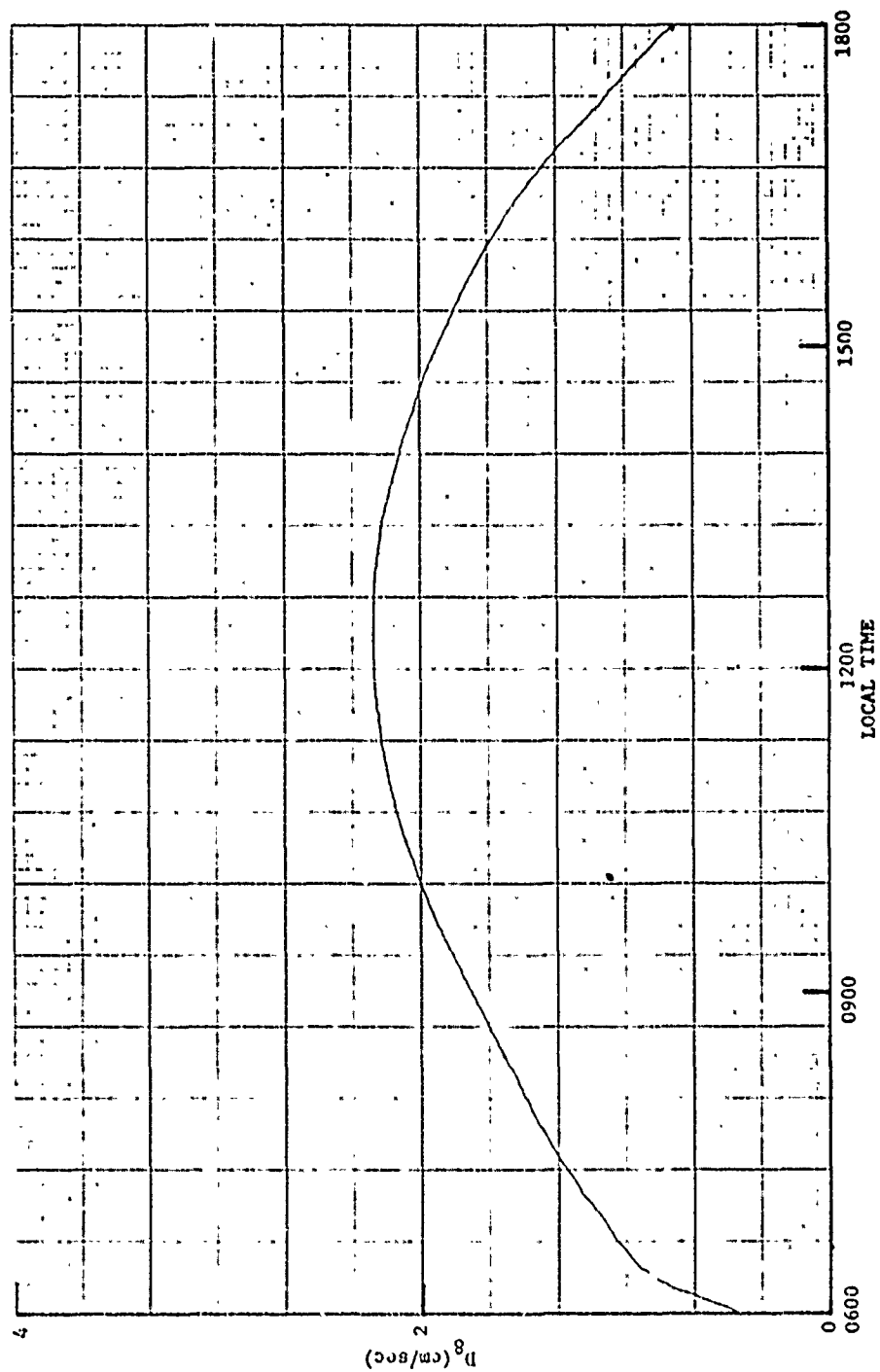


Figure II.4 Twelve hour simulation of the integral exchange coefficient, D_8 , for Case I-R.

speed decreases slowly as the loss of momentum to the surface exceeds the increase in momentum due to advection and vertical transport from the layers above 8 m. As the temperature gradient increases and approaches the maximum value of 5.34 deg C at approximately 1145C there is a corresponding increase in $K_{m,8}$ and D_8 . At 0800C $K_{m,8}$ has increased in value to the point that more momentum is being transferred down to the 8-m level than is being taken from it. Consequently, the wind increases and attains a maximum of 3.32 m/sec at approximately 1330C when the process begins to reverse as the temperature gradient decreases in the afternoon. The result is an increase in the surface wind during the morning and a decrease in the evening.

In order to examine the relationships over a full 24 hr period and at the same time avoid the initial accelerations, solutions were plotted for a time period of 48 hrs. Advection was set to zero so as not to mask the results and the surface contour gradient was held constant. The resulting solutions for T_0-T_8 , S_8 , $K_{m,8}$ and D_8 appear in Figures II.5 through II.8. From 0600 to 1800, T_0-T_8 follows the normal daytime heating cycle and from 1800 to 0600 approaches a rather constant value. In conjunction with these changes $K_{m,8}$ and D_8 increase in the morning reaching a maximum value shortly after noon, thence decrease sharply toward sunset, and then further decrease at a decreasing rate until sunrise when the process is repeated. In a similar manner the wind speed at 8-m height increases during the daylight hours and decreases at night.

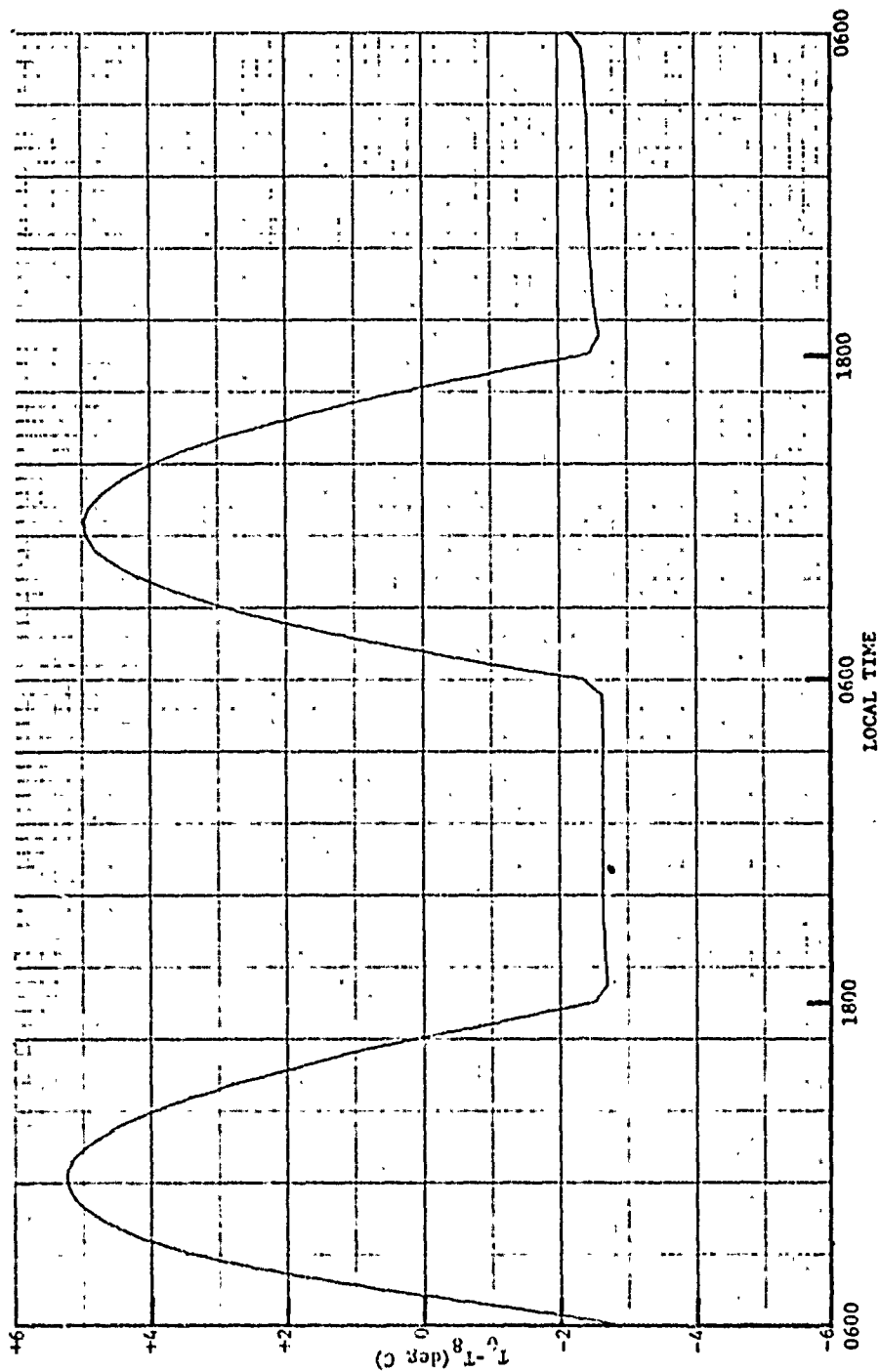


Figure 11.5 Forty-eight hour simulation of the difference in temperature between the surface and 8-m height, $T_0 - T_8$, for Case I-B with the surface contour gradient held constant and advection of wind, temperature, and vapor pressure equal to zero.

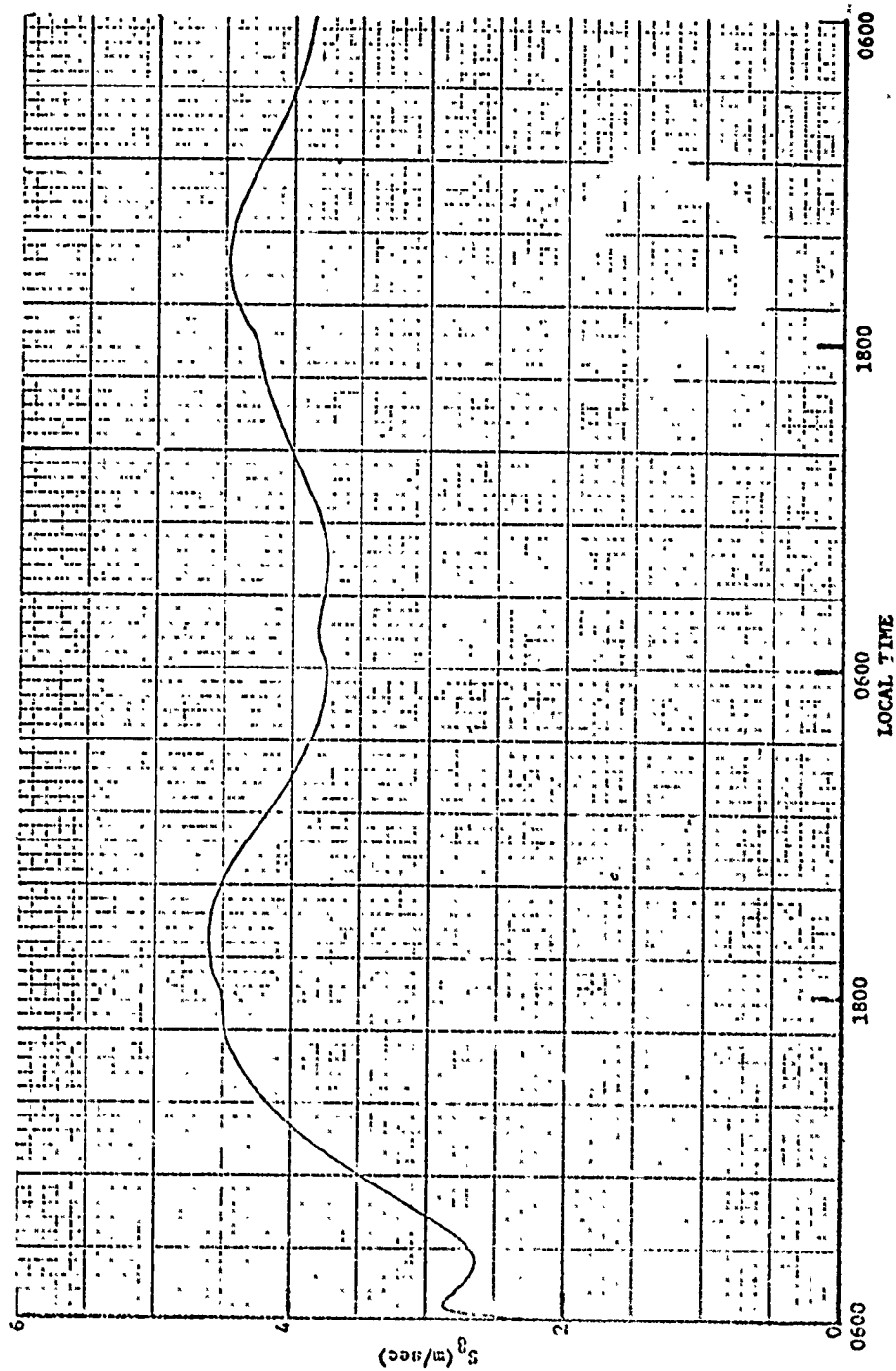


Figure II.6 Forty-eight hour simulation of the wind speed at 8-m height, S_g , for Case I-B, with the surface contour gradient constant and advection of wind, temperature, and moisture equal to zero.

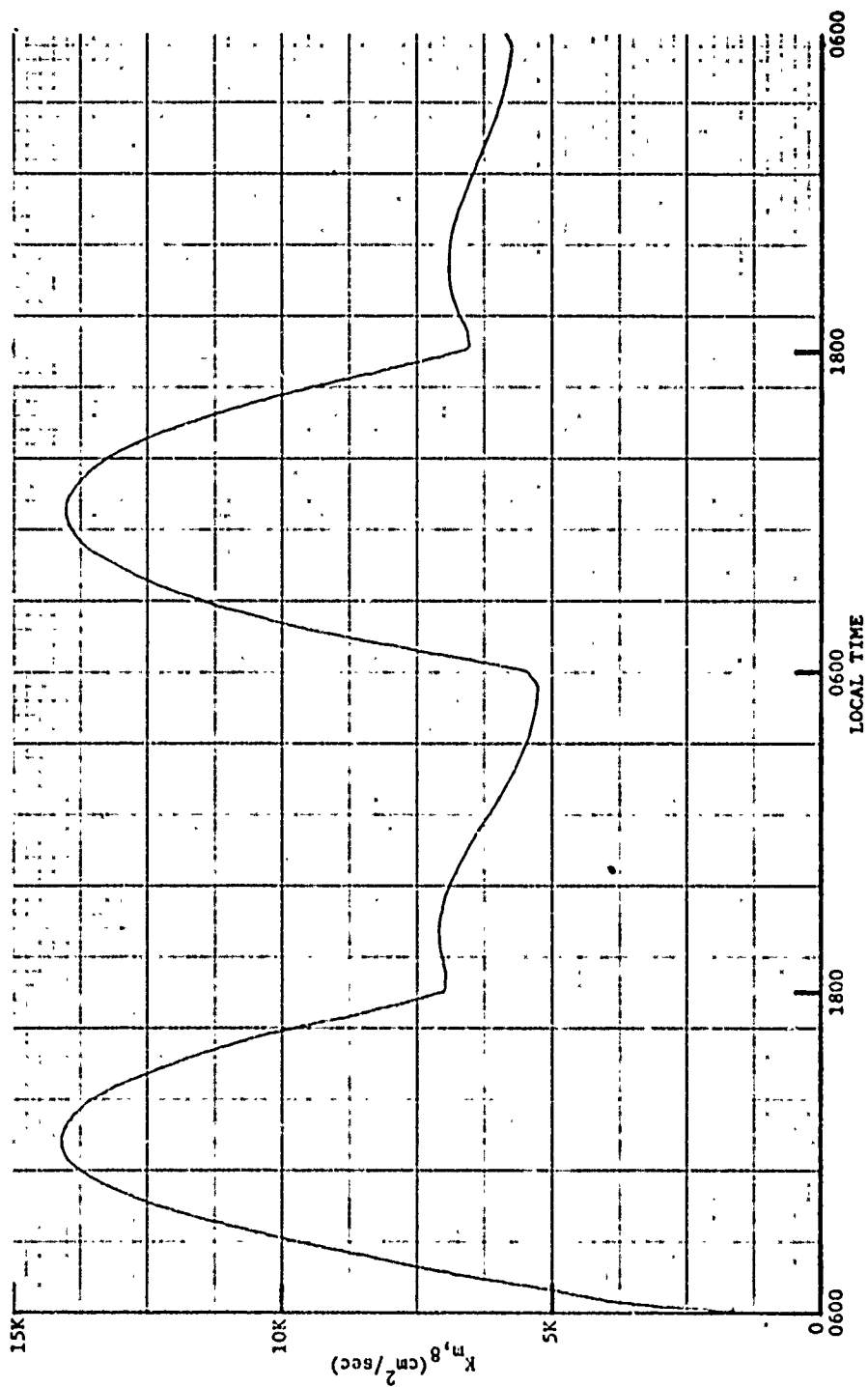


Figure II.7 Forty-eight hour simulation of the exchange coefficient for momentum at 8-m height, K_{m8} , for Case I-B with the surface contour gradient held constant and advection of wind, temperature, and vapor pressure equal to zero.

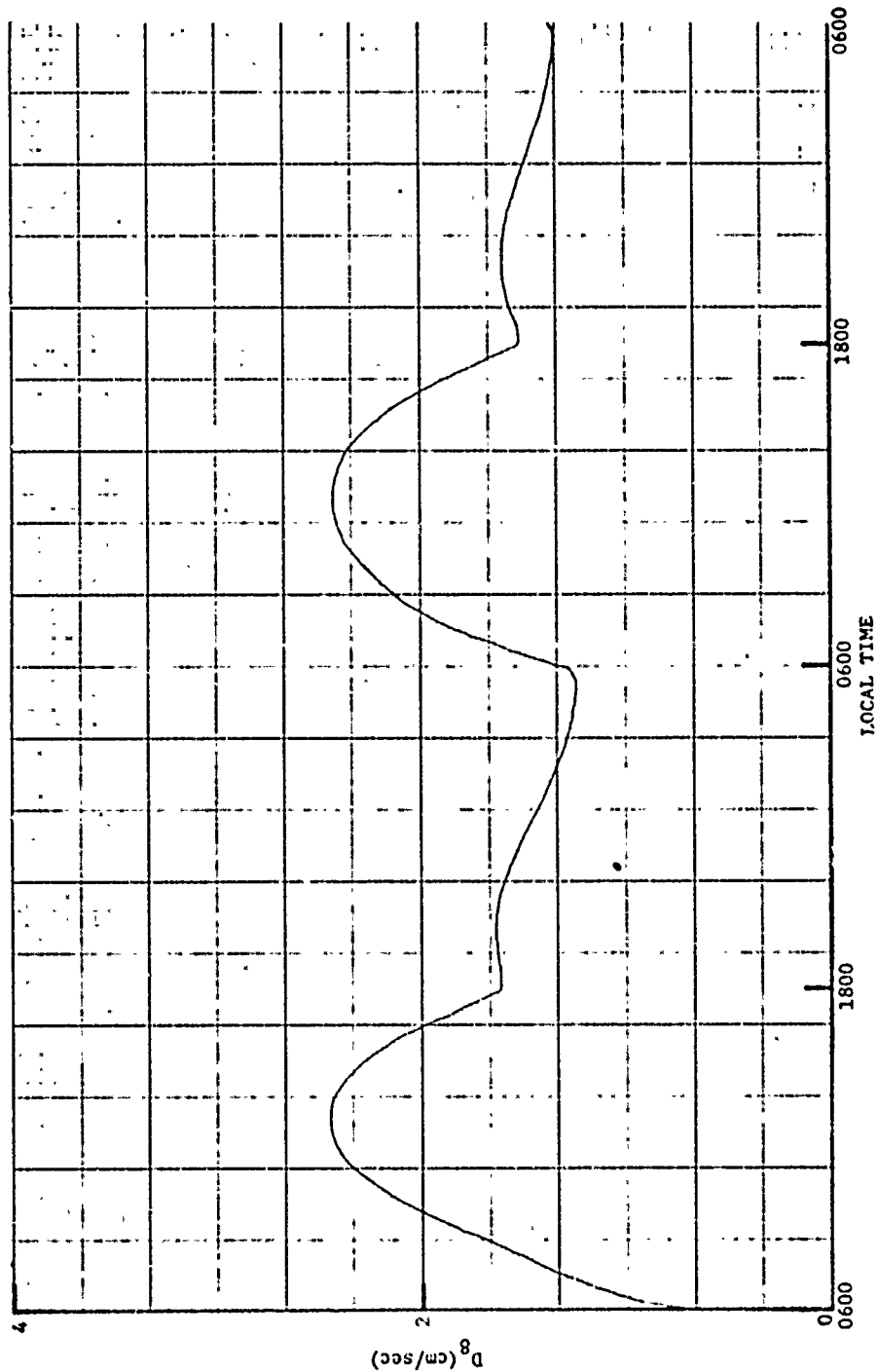


Figure II.8 Forty-eight hour simulation of the integral exchange coefficient, D_8 , for Case I-B with the surface contour gradient held constant and advection of wind, temperature, and vapor pressure equal to zero.

These results are more nearly in agreement with observations of the diurnal cycle of winds and, consequently, would be expected to simulate wind patterns more accurately than winds simulated by incorporation of the log-square-root wind profile.

III. COMPARISON OF SOLUTIONS OBTAINED WITH THE ALTERNATE EXCHANGE COEFFICIENT AND SOLUTIONS OBTAINED PREVIOUSLY BY USE OF THE LOG-SQUARE-ROOT WIND PROFILE

The effects on the solutions of the meteorological equations employing the two exchange coefficient relationships are revealed largely by examination of the winds at the height of 8 m. The results for Case I-B are shown in the following table. The data for this case were taken under typical summer conditions in Texas on 15 August 1962 during the hours of 0600C through 1800C. Synoptic conditions were quite stagnant so that changes are primarily diurnal.

Table III.1 Differences in Predictions of the Wind at Eight Meters Height for Case I-B Obtained by Use of the Alternate Exchange Coefficients and the Coefficients Derived from the Log-Square-Root Wind Profile

| Tape Number | Prediction Interval (hr) | Surface to 8-m Wind Profile | Magnitude of Vector Wind Difference (m/sec) | Wind Direction Difference (deg) |
|-------------|--------------------------|-----------------------------|---|---------------------------------|
| 511.1 | 12 | Log-Square-Root | 5.12 | 36 |
| 755 | 12 | Modified Deacon | 2.15 | 51 |
| 516.1 | 6 | Log-Square-Root | 3.37 | 2 |
| 761 | 6 | Modified Deacon | 3.03 | 50 |
| 521.1 | 2 | Log-Square-Root | 2.02 | 51 |
| 767 | 2 | Modified Deacon | 2.36 | 41 |
| 526.1 | 1 | Log-Square-Root | 0.65 | 5 |
| 773 | 1 | Modified Deacon | 1.41 | 16 |

In this table as in subsequent tables, comparisons are shown for four time intervals of prediction, 1, 2, 6, and 12 hr. Solutions

obtained for the log-square-root wind profile have been reproduced from Final Report, Report No. 12, Signal Corps Contract DA 36-039-AMC-02195(E) and Technical Report ECOM-02286-2. The data may be referenced through the tape numbers which occur in the first column of the table. The time interval for each prediction appears in the second column of the table, and the third column signifies the wind profile used. The fourth column contains the absolute value of the differences of the magnitudes of the vector winds predicted for the height of 8 m and magnitudes of the vector winds resulting from observations and analyses for this height. The last column contains the absolute value of the differences in the directions of these winds.

Examination of the values in the table for a prediction of 12 hr shows that for Case I-B a difference of 5.12 m/sec in the magnitude of the vector wind and a difference of 36 deg in wind direction were obtained for the wind at 8-m height by use of the log-square-root profile. By use of the alternate exchange coefficient the difference in the magnitude of the vector wind was reduced to 2.15 m/sec; however, the difference in wind direction increased to 51 deg. A similar result, a slight reduction in the difference in the magnitude of the vector wind accompanied by an increase in the difference in wind direction, was obtained for a prediction interval of 6 hrs.

Results for a prediction interval of 2 hrs indicate that a larger difference in vector wind magnitude occurred with a smaller difference in wind direction, and for a 1 hr prediction a larger difference in both the magnitude of the vector wind and wind direction occurred when

the alternate exchange coefficient was employed rather than the log-square-root profile.

Table III.2 contains the results for Case II which represents a

Table III.2 Differences in Predictions of the Wind at Eight Meters Height for Case II Obtained by Use of the Alternate Exchange Coefficients and the Coefficients Derived from the Log-Square-Root Wind Profile

| Tape Number | Prediction Interval (hr) | Surface to 8-m Wind Profile | Magnitude of Vector Wind Difference (m/sec) | Wind Direction Difference (deg) |
|-------------|--------------------------|-----------------------------|---|---------------------------------|
| 60.1 | 12 | Log-Square-Root | 5.48 | 36 |
| 678 | 12 | Modified Deacon | 3.95 | 6 |
| 68 | 6 | Log-Square-Root | 1.95 | 23 |
| 691 | 6 | Modified Deacon | 1.38 | 15 |
| 75.1 | 2 | Log-Square-Root | 5.15 | 43 |
| 704 | 2 | Modified Deacon | 4.74 | 35 |
| 83.1 | 1 | Log-Square-Root | 5.42 | 30 |
| 717 | 1 | Modified Deacon | 5.35 | 28 |

radiational fog situation that occurred from 0000C through 1200C on 8 February 1962. These results indicate that employment of the alternate exchange coefficient expression yielded a reduction of the difference in predicted vector wind magnitude for each of the four simulation intervals. The largest reduction, 1.53 m/sec, was obtained for a prediction interval of 12 hr. Correspondingly smaller reductions were obtained for the shorter time periods. For each of the four prediction intervals the wind direction prediction was improved. The difference

for a 1 hr prediction of wind direction was reduced from 30 deg to 28 deg, an insignificant decrease; however, the 12 hr prediction difference was decreased from 36 deg to 6 deg.

The data for Case III were collected under conditions of steady rain between the hours of 0000C and 1200C on 4 April 1962. The results for Case III are found in Table III.3 where one can see a reduction in

Table III.3 Differences in Predictions of the Wind at Eight Meters Height for Case III Obtained by Use of the Alternate Exchange Coefficients and the Coefficients Derived from the Log-Square-Root Wind Profile

| Tape Number | Prediction Interval (hr) | Surface to 8-m Wind Profile | Magnitude of Vector Wind Difference (m/sec) | Wind Direction Difference (deg) |
|-------------|--------------------------|-----------------------------|---|---------------------------------|
| 114.3 | 12 | Log-Square-Root | 12.55 | 35 |
| 730 | 12 | Modified Deacon | 11.17 | 39 |
| 122.1 | 6 | Log-Square-Root | 9.12 | 4 |
| 736 | 6 | Modified Deacon | 8.02 | 9 |
| 129.1 | 2 | Log-Square-Root | 5.79 | 10 |
| 742 | 2 | Modified Deacon | 5.47 | 7 |
| 136.1 | 1 | Log-Square-Root | 4.58 | 4 |
| 748 | 1 | Modified Deacon | 4.44 | 3 |

the difference in the magnitude of the vector wind obtained by use of the alternate exchange coefficient for each of the four time intervals and a slight improvement in wind direction for the 1 hr and 2 hr prediction intervals. Being less than 1.5 m/sec in each case, these reductions again are small and the improvement in wind direction is less than 5 deg.

The last case presented here, Case IV-A, is that of a frontal passage which occurred on 26 February 1962 between the hours of 0000C and 1200C. The results for this case appear in Table III.4.

Table III.4 Differences in Predictions of the Wind at Eight Meters Height for Case IV-A Obtained by Use of the Alternate Exchange Coefficients and the Coefficients Derived from the Log-Square-Root Wind Profile

| Tape Number | Prediction Interval (hr) | Surface to 8-m Wind Profile | Magnitude of Vector Wind Difference (m/sec) | Wind Direction Difference (deg) |
|-------------|--------------------------|-----------------------------|---|---------------------------------|
| 332.1 | 12 | Log-Square-Root | 10.18 | 46 |
| 781 | 12 | Modified Deacon | 5.58 | 25 |
| 340.1 | 6 | Log-Square-Root | 12.02 | 47 |
| 787 | 6 | Modified Deacon | 6.88 | 19 |
| 348 | 2 | Log-Square-Root | 5.14 | 50 |
| 793 | 2 | Modified Deacon | 4.63 | 34 |
| 356 | 1 | Log-Square-Root | 5.15 | 34 |
| 799 | 1 | Modified Deacon | 5.06 | 29 |

The differences in wind speed were reduced from 12.02 m/sec to 6.88 m/sec for the 6 hr prediction interval and from 10.18 m/sec to 5.58 m/sec for the 12 hr prediction interval by use of the alternate exchange coefficient. In addition, the wind direction differences were reduced considerably for each of the four prediction intervals. The 1 hr difference was reduced by 5 deg, the 2 hr difference by 16 deg, the 6 hr difference by 28 deg, and the 12 hr difference by 21 deg.

The results obtained from these four cases and from Case I-A (see Technical Report FCOM-0280-6) suggest that the alternate exchange

coefficient will improve prediction capability; however, to conclude that such an improvement will be realized is premature and presumptive until a sufficient number of sets of data have been analyzed.

IV. DETERMINATION OF THE DEGREE OF COUPLING OF THE WIND AT 1000-M HEIGHT TO THE GEOSTROPHIC WIND

For some time, coupling the wind at 1000-m height to the geostrophic wind has been known to yield solutions of the winds more in agreement with observed values than those obtained with no coupling present; however, the degree of coupling required to yield values most nearly in agreement with observed values has not been determined. If the direction and magnitude of the pressure gradients were known exactly and the wind flow was weak and essentially straight, the maximum coupling would yield the best result. Unfortunately, this situation is not the case; consequently, maximum coupling may not be assumed a priori to yield the best result. In order to determine the most suitable coupling coefficient, a series of solutions was obtained for coupling coefficients ranging from 0.000 to $0.002 \text{ gm cm}^{-2} \text{ sec}^{-1}$. The effects of these solutions are best seen in the winds at 1000-m height which are shown in the following tables.

Table IV.1 contains the results for Case I-E. In this and the following three tables, the tape number is recorded in the first column for reference purposes, the coupling coefficient appears in the second column, the third contains the prediction interval, the fourth the difference in the magnitude of the vector wind at 1000-m height predicted by the CDC and the magnitude of the vector wind at that level as determined by analysis of observations, and the last column contains the difference in the direction of the predicted wind at 1000-m height and the wind direction determined from analysis of observations.

Table IV.1 Differences in Predictions of the Wind at
1000-Meters Height Obtained for Various
Degrees of Geostrophic Coupling for Case I-B

| Tape Number | Coupling Coefficient (gm cm ⁻² sec ⁻¹) | Prediction Interval (hr) | Magnitude of Vector Wind Difference (m/sec) | Wind Direction Difference (deg) |
|----------------|---|--------------------------------|--|---------------------------------------|
| 755 | 0.0000 | 12 | 4.86 | 54 |
| 760 | 0.0020 | 12 | 2.57 | 8 |
| 761 | 0.0000 | 6 | 6.87 | 61 |
| 766 | 0.0020 | 6 | 4.16 | 54 |
| 767 | 0.0000 | 2 | 1.12 | 0 |
| 772 | 0.0020 | 2 | 4.37 | 12 |
| 773 | 0.0000 | 1 | .64 | 1 |
| 778 | 0.0020 | 1 | 3.49 | 7 |

Examination of Table IV.1 shows that the difference in magnitude of the vector wind for a prediction interval of 12 hr obtained with the coupling coefficient set to 0.0000 was 4.86 m/sec and the difference in wind direction was 54 deg, to the nearest degree. Application of maximum coupling reduced these values to 2.57 m/sec and 8 deg respectively. Similarly, the solutions for 6 hr show reductions from 6.87 m/sec and 61 deg to 4.16 m/sec and 54 deg. The 2 hr and 1 hr solutions, on the contrary, resulted in increases in both magnitude and direction.

The results for Case II appear in Table IV.2 and show reductions in differences of the magnitude of the vector wind for the 12 hr simulation interval only. The wind directions, also, are improved for the 12 hr time interval only.

The tabulation for Case III, which appears in Table IV.3 shows a reduction in the difference in wind speed for the 2, 6, and 12 hr

Table IV.2 Differences in Predictions of the Wind at
1000-Meters Height Obtained for Various
Degrees of Geostrophic Coupling for Case II

| Tape Number | Coupling Coefficient ($\text{gm cm}^{-2}\text{sec}^{-1}$) | Prediction Interval (hr) | Magnitude of Vector Wind Difference (m/sec) | Wind Direction Difference (deg) |
|----------------|---|--------------------------------|--|---------------------------------------|
| 678 | 0.0000 | 12 | 16.28 | 37 |
| 686 | 0.0020 | 12 | 11.17 | 29 |
| 691 | 0.0000 | 6 | 6.41 | 15 |
| 699 | 0.0020 | 6 | 8.41 | 45 |
| 704 | 0.0000 | 2 | 4.09 | 3 |
| 712 | 0.0020 | 2 | 6.47 | 30 |
| 717 | 0.0000 | 1 | 3.08 | 3 |
| 725 | 0.0020 | 1 | 5.32 | 22 |

time intervals and a reduction in the difference in wind direction for
all four time intervals. The largest reduction in difference of the

Table IV.3 Differences in Predictions of the Wind at
1000-Meters Height Obtained for Various
Degrees of Geostrophic Coupling for Case III

| Tape Number | Coupling Coefficient ($\text{gm cm}^{-2}\text{sec}^{-1}$) | Prediction Interval (hr) | Magnitude of Vector Wind Difference (m/sec) | Wind Direction Difference (deg) |
|----------------|---|--------------------------------|--|---------------------------------------|
| 730 | 0.0000 | 12 | 21.93 | 23 |
| 735 | 0.0020 | 12 | 10.46 | 8 |
| 736 | 0.0000 | 6 | 18.19 | 47 |
| 741 | 0.0020 | 6 | 9.97 | 29 |
| 742 | 0.0000 | 2 | 7.24 | 21 |
| 747 | 0.0020 | 2 | 4.85 | 10 |
| 748 | 0.0000 | 1 | 4.12 | 12 |
| 753 | 0.0020 | 1 | 4.25 | 6 |

vector wind magnitude amounted to 11.47 m/sec, which was associated with the 12 hr prediction, and the largest reduction in wind direction difference amounted to 18 deg which was associated with the 6 hr time interval. In each of these three cases if coupling the geostrophic wind to the wind at 1000-m height improved the prediction, maximum coupling produced the maximum reduction in the difference between the wind for 1000-m height as computed by the GPAC and the wind at 1000-m height derived from analysis of observed data.

Case IV-A appears in Table IV.4. For this case zero coupling yielded the best results for each of the four prediction intervals. For

Table IV.4 Differences in Predictions of the Wind at 1000-Meters Height Obtained for Various Degrees of Geostrophic Coupling for Case IV-A

| Tape Number | Coupling Coefficient ($\text{gm cm}^{-2}\text{sec}^{-1}$) | Prediction Interval (hr) | Magnitude of Vector Wind Difference (m/sec) | Wind Direction Difference (deg) |
|-------------|--|-----------------------------|--|------------------------------------|
| 781 | 0.0000 | 12 | 11.97 | 51 |
| 786 | 0.0020 | 12 | 16.32 | 77 |
| 787 | 0.0000 | 6 | 1.74 | 7 |
| 792 | 0.0020 | 6 | 17.88 | 110 |
| 793 | 0.0000 | 2 | 4.03 | 23 |
| 798 | 0.0020 | 2 | 9.64 | 80 |
| 799 | 0.0000 | 1 | 2.67 | 15 |
| 804 | 0.0020 | 1 | 5.97 | 40 |

each prediction interval increasing the coupling resulted in increased differences in both direction and vector magnitude between the predicted winds and winds obtained from data analyses.

Three of the four cases studied here resulted in best predictions of the winds at 1000-m height for a 12 hr prediction interval when the geostrophic coupling coefficient was set to the maximum value studied. On the other hand, greater differences resulted for a 1 hr prediction interval for all cases. Results obtained for the four cases considered thus far suggest that significant improvement in wind predictions may not be obtained by strong coupling of the wind at 1000 m height to the geostrophic wind for time intervals up to 2 hr but that increased coupling yields winds more nearly in agreement with observed winds for prediction intervals of 6 hr or more. Of course, no definite conclusions may be drawn until all available cases have been investigated.